Rule 316 Handbook
Nonmetallic Mineral Processing

Maricopa County Air Quality Department

October 2015

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Most of the above documents are directly linked in this pdf version so you can readily access the document online.

Only those documents not accessible online are included in the Appendices

Introduction

In March 2010, the Maricopa County Air Quality Department (department) issued its award-winning Dust Abatement Handbook for Compliance with Rule 310—Fugitive Dust from Dust-Generating Operations and associated Field Guide. Response from the public and the regulated community over the value of the handbook was very positive.

Given the popularity and success of the Dust Abatement Handbook, the department, working with the Arizona Rock Products Association (ARPA), developed this guidance document to encourage and facilitate compliance with one of the other principal dust control rules in Maricopa County: Rule 316, Nonmetallic Mineral Processing.

Rule 316 is a critical element in Maricopa County's strategy to achieve improved air quality. The department has instituted a comprehensive program to monitor compliance with Rule 316 and strict enforcement is leading to reduced dust emissions.

Every approach to improving air quality comes with a learning curve. In developing this handbook, the department has reached out to those most affected and asked for and received their input. The intent of this handbook is to provide a practical guide offering a comprehensive overview of how Rule 316 is applied that will be useful and used—a document that will become dog-eared and tattered (virtually) through frequent reference.

CLEAN AIR MAKE MORE

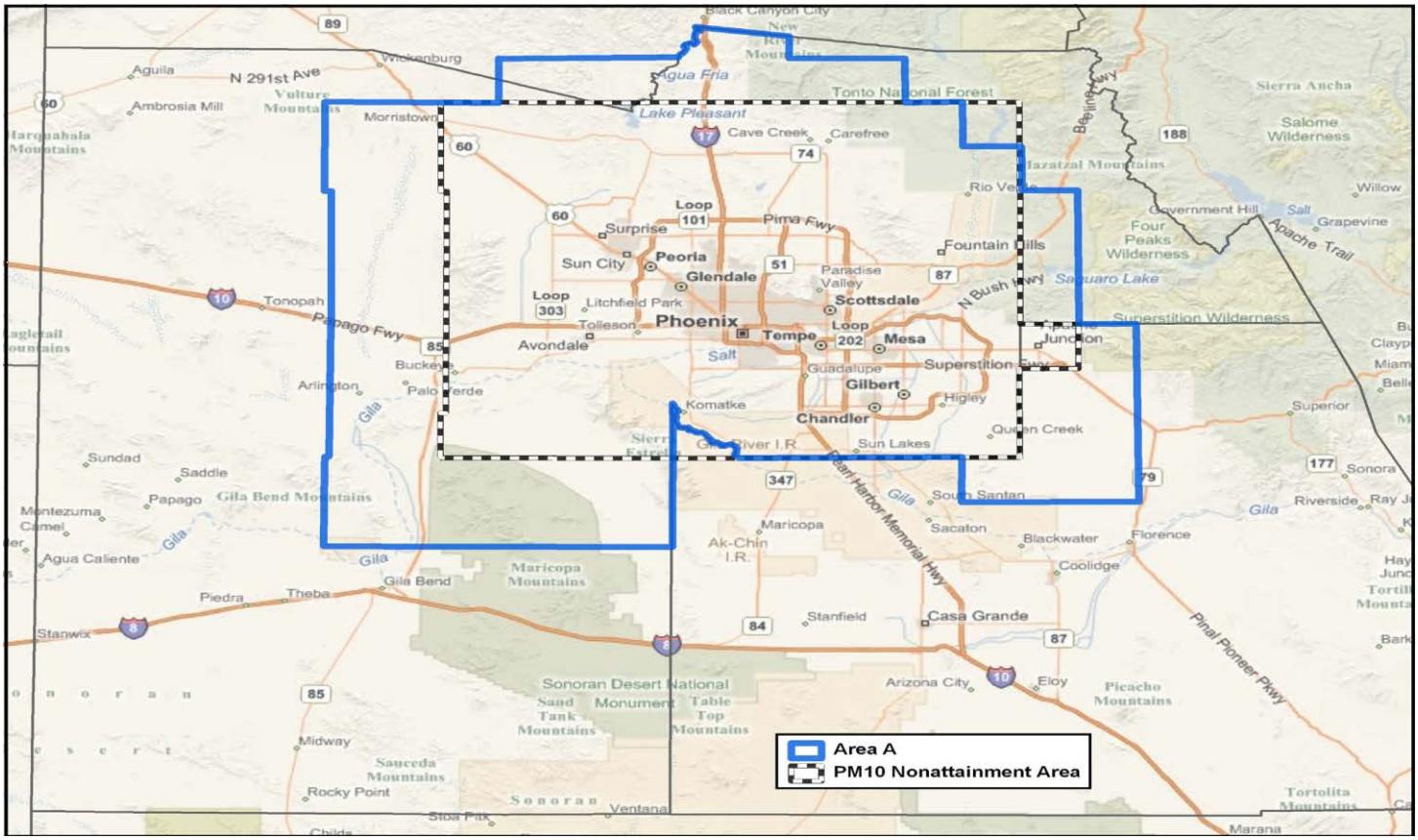
PM-10 Nonattainment Area

PM-10 (particulate matter 10 microns, or smaller, in diameter) includes dust, soot, and other tiny bits of solid material that are released into and move around in the air. PM-10 is produced by many sources, including fugitive dust sources like construction, mining, agricultural activities, and paved and unpaved roads as well as from fuel combustion sources such as diesel engines, fireplaces and wood stoves. A substantial portion of Maricopa County has been deemed a "nonattainment" area for PM-10 by the United States Environmental Protection Agency (EPA) and the Arizona Department of Environmental Quality (ADEQ). PM 10 nonattainment areas are designated when an exceedance of the national standard occurs.

Non-metallic mineral operations are a significant potential source of PM-10 emissions. Haul roads, loading operations, crushing and screening, and transfer operations all contribute to PM-10 from these sources. Rule 316 is designed to require effective, yet reasonable controls to limit emissions from the non-metallic mineral industry.

Rule 316 Jurisdiction

Rule 316 applies to all of Maricopa County regardless of whether a site is located within the PM-10 nonattainment area. Although Tribal communities are found within the borders of Maricopa County, the department has no jurisdiction over them, because they are considered sovereign nations. This handbook does not apply to operations outside Maricopa County which may be regulated under different rules adopted by different regulatory agencies.



PM-10 Nonattainment Area Map showing Area A

About this Handbook

The purpose of this handbook is to provide a practical guide offering a comprehensive overview of the department's policies and interpretations of Rule 316. The intent is that this guide will be useful and used. The handbook is organized to respond to topical questions and it is structured to provide answers to the most commonly encountered compliance challenges.

Disclaimer

This *Rule 316 Handbook* is provided to assist in better understanding the provisions of Maricopa County Air Quality Department's Rule 316—Non-Metallic Mineral Processing. The contents of this handbook should not be viewed as the definitive statement of Rule 316 and how to achieve compliance. ***Where the clear language of Rule 316 and any formally issued policy related to Rule 316 conflict with this handbook, Rule 316 and the policy will prevail.***

The user of this handbook should clearly understand that the information contained in this document is not binding. The Rule itself should be relied upon for a final determination of compliance. This handbook is not intended to serve as an alternative to Rule 316 which is, by itself, the definitive statement of dust-control requirements applicable to the non-metallic mineral mining industry within Maricopa County.

Updates

This document is expected to be updated from time to time. If you identify any area that requires clarification, please let us know. Send your comments to the attention of the Ombudsman at the Maricopa County Air Quality Department. Also, you may wish to check the department's website from time to time to see if any revisions are posted.

Where to Find the Full Text of Rule 316

Rule 316 is available online at http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/316-0803.pdf. Rule 316 is also an appendix to this document.

Acknowledgements

This handbook was developed in 2012 in a collaborative effort between the regulated community and the Maricopa County Air Quality Department. The basic document was developed by an internal working group within the Department and an external working group, which was comprised of members of the regulated community who will rely on the contents of this handbook to improve compliance with Rule 316. A related field guide will be developed early in 2013.

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Document Conventions

When a reference to a period of days is mentioned, it will mean calendar days unless otherwise specified.

It is recommended that this document be printed in color to allow all graphical features to be seen.

Within the handbook, the Maricopa County Air Quality Department will be commonly referred to as the "department."

The reference to the "Control Officer" in the document refers to the Director of the Air Quality Department.

The reference to the "Administrator" in the document refers to the head of the United States Environmental Protection Agency.

Acronyms

Commonly Used Rule 316-Related Acronyms

ABC	Aggregate Base Course
ADEQ	Arizona Department of Environmental Quality
ASTM	American Society for Testing and Materials
ATI	At the Time of the Inspection
CFR	Code of Federal Regulations
CCM	Contingency Control Measure
DCP	Dust Control Plan
DSCF	Dry standard cubic foot
ECS	Emission Control Systems
EPA	Environmental Protection Agency
GR	Grains
HPA	High Pollution Advisory
HPV	High Priority Violation
HT	Haul Truck
NOV	Notice of Violation
OAC	Order of Abatement by Consent
O&M	Operations and Maintenance
OTC	Opportunity to Correct
PAAP	Paved Area Accessible to the Public
PCM	Primary Control Measures
PM	Particulate Matter
PM-10	Particulate matter whose size is 10 micrometers or smaller (One micrometer is equivalent to 3.93700787 × 10-5 inches)
TOCD	Trackout Control Device
TFV	Threshold Friction Velocity
TO	Trackout
VE	Visible Emissions
VEE	Visible Emissions Evaluation

Section 1 - Before Starting Work

Rule 316 Applicability

Why Rule 316?

Because air quality in the greater metropolitan Phoenix area is classified as in serious non-attainment for PM-10, it is necessary to a have a comprehensive program to control PM-10 air pollution. Maricopa County's Rule 316 – Nonmetallic Mineral Processing was developed to provide part of this comprehensive program.

Coverage of Rule 316

Rule 316 applies to any nonmetallic mineral processing plant within Maricopa County (excluding tribal lands). Maricopa County's definition of a "nonmetallic mineral" includes crushed and broken stone, sand and gravel, clay, rock salt, gypsum, sodium compounds, pumice, gilsonite, talc and pyrophyllite, boron, barite, fluorspar, feldspar, diatomite, perlite, vermiculite, mica, kyanite, and coal. In addition, the definition includes mixtures of these minerals such as concrete and asphalt.

A "nonmetallic mineral processing plant" is any facility or equipment used to mine, excavate, separate, combine, crush or grind any nonmetallic mineral wherever located, including, but not limited to, lime plants, steel mills, asphalt plants, batch concrete plants, and sand and gravel plants.

The following activities are covered in this handbook: crushing and screening of nonmetallic minerals, concrete batch plants, hot mix asphalt plants. Note: Additional activities not listed here are covered in Rule 316.

What Portions of Maricopa County are Not Covered by Rule 316?

Although tribal lands are found within the borders of Maricopa County, the department has no jurisdiction over them because they are legally considered sovereign nations. Note: check with tribal governments as some have their own dust control requirements. For example, the Gila River Indian Community has adopted requirements for nonmetallic mineral processing facilities that are similar to Rule 316.

Refer to Rule 310 for requirements for overburden removal and blasting.

Permits are Required

Every nonmetallic mineral processing operation located in Maricopa County must have and comply with an operating permit issued by the department or ADEQ (for portable plants that do not operate exclusively in Maricopa County) before startup of the facility. See page 9-2 for more details.

New Source Equipment Start-up "Shakedown"

When a new source begins operation, the equipment generating and controlling emissions may be subject to a performance test to determine that the equipment is operating in such a manner as to be compliant with all applicable emission limits. County Rule 270, § 401 requires that a performance test is to be completed within 60 days of achieving maximum production rate and, in no event, longer than 180 days after initial start-up of the source. This requirement closely follows the federal regulation found at 40 CFR 60.8 which addresses this topic. Each individual piece of equipment at a facility subject to Rule 316 must be in compliance when it starts up and the performance test is the verification that the equipment is operating in compliance. EPA has explained the concept of a "shakedown" period in a letter dated 26 April 1976 (located at http://envinfo.com/caain/enforcement/caad107.html). EPA explains that a

"short period" of time for "shakedown" is allowed to provide time to "adjust and fine tune" control equipment before a performance test. This should not be considered as the entire time between initial start-up and the date of the performance test (which could be a considerable period of time), rather, it is understood that the "shakedown period" is intended to initially adjust the equipment to establish optimal (compliant) operating conditions prior to a performance test being conducted. EPA clearly states, "… Section 60.8 was never meant to imply that, prior to a performance test, a grace period exists…" The department's expectation is that a facility is operating its equipment in compliance with permit conditions at all times prior to performance test being performed. Factors associated with "shakedown" of the equipment would be elements to consider in any enforcement proceeding that results from a determination of non-compliance.

A Few Essentials

What do you need to do to ensure that a project is in compliance? The following list is intended to provide a snapshot of some of the most significant provisions of Rule 316. This handbook provides more expansive discussions on each of these provisions in later sections.

Before Starting Work

- ✓ Obtain an operating permit before starting operations (It is advised that an application for a new facility be submitted 6 months prior to beginning operations)
- ✓ Review draft permit for accuracy and limits you can work with
- ✓ Understand all rules and regulations in your permit. Some operations that occur at non-metallic mineral processing plants are regulated under different County or Federal regulations (e.g. abrasive blasting, solvent cleaning, gasoline storage, etc)
- ✓ As part of the permit application process, you will be required to fill out an application which includes a Dust Control Plan (DCP) and an Operations and Maintenance Plan (O&M Plan)
- ✓ Read and understand your approved DCP and O&M Plan
- ✓ The approved permit must be on site before you begin any activity
- ✓ Familiarize yourself with Rule 316 and this Handbook. The Rule contains important details and requirements that may not be addressed in the handbook. Develop a working knowledge of the dust control requirements and related challenges
- ✓ Understand your project—site boundaries, emission sources, areas where soil will be disturbed, locations of exits and entrances, storage areas, haul roads, equipment paths—consider everything that could potentially create dust
- ✓ If your facility has a rated or permitted capacity of 25 tons or more of material per hour or has an area five acres or larger disturbed surface area, a Fugitive Dust Control Technician is required. The Fugitive Dust Control Technician must obtain and possess a valid visible emission certification before starting work
- ✓ Ensure that you are prepared to control dust prior to starting a project (for example, permanently mount water systems at necessary points on crushing and screening operations)
- ✓ Develop a traffic flow pattern and immediately establish a controlled exit with a trackout control device
- ✓ Request a courtesy visit by the department's Ombudsman/Small Business Program manager or to participate in the pre-operation meeting to answer questions

> **Helpful Hint**
>
> The Dust Control Plan (DCP) and the Operations and Maintenance Plan (O&M Plan) should be filled out by someone familiar with controlling emissions and specific facility operations.

While Your Permit is Active

- ✓ Never allow on-site emissions to exceed specific opacity requirements
- ✓ Actively monitor trackout during the course of the workday
- ✓ Do not allow any visible dust to cross your property line
- ✓ Apply water or other control measures to limit emissions before, during, and after operations (Note: additional control options are available in lieu of water)
- ✓ If the primary dust control measure is ineffective, immediately implement the contingency measure from your approved Dust Control Plan. While the contingency measure can be applied along with the primary control measure, the use of both, concurrently, is not required
- ✓ Document the use of the contingency measure in your daily log
- ✓ Be aware that changes to the process and/or equipment could require modifications to the permit

- ✓ Maintain thorough records to ensure compliance with record keeping regulations and to ensure throughput and emission thresholds are not exceeded
- ✓ Educate employees on where and how to conduct soil moisture testing
- ✓ Conduct detailed self-inspections daily when operations are active
- ✓ If dust emissions cannot be controlled, stop work
- ✓ Understand and meet stabilization standards
- ✓ Know when your permit expires and place the expiration date on your calendar along with the date by which the permit renewal application must be submitted (be sure to allow enough time for processing and postal delivery)
- ✓ Permit renewal applications must be submitted no later than six months before the permit expiration date. Note: If the application is not complete or errors are present, additional time will be required to resolve any problems.

Operation Shut Down

- ✓ When work is completed, ensure that disturbed areas within the permit area are stabilized and meet stabilization standards. When a permit is closed the property will revert to being regulated under rule 310.01 (vacant lots) or Rule 310 if appropriate.

Responsibilities of the Permit Holder

- ✓ The applicant's signature on the permit application represents a binding agreement and obligates the applicant to implement sufficient control measures in order to achieve applicable standards.
- ✓ The permit holder is ultimately responsible for ensuring the permitted site is in compliance at all times to prevent risks to the environment and the public, even if noncompliance is the result of an action by anyone, including a trespasser.
- ✓ The provisions of an approved Dust Control Plan and Operations and Maintenance Plan are binding and enforceable. It is important that control measures and maintenance procedures chosen in these plans are functional for your facility and able to meet compliance standards. Measures and procedures chosen need to be implemented, so if you don't intend to implement a provision of the plans, don't include it.
- ✓ The approved Dust Control Plan is effective 24/7, including holidays, therefore, dust must be controlled 24/7.

Helpful Hint

An easy way to ensure the permit, DCP and O&M plan are onsite at all times is to place the documents in a designated "Air Quality" binder. This binder should contain all documents relating to the Air Quality permit; permit, plans, recent dust control logs, throughput and emission records, soil moisture test results, and any other applicable records.

Section 2 - Operating Permit, Dust Control Plan, and Operations and Maintenance Plan

The Operating Permit

Applying for a Permit

Most sources subject to Rule 316, such as hot mix asphalt plants, concrete batch plants, and crushing and screening plants, can obtain permit coverage under what is referred to as a Non-Title V Permit (in contrast, major sources, determined by the amount of expected emissions, must obtain a Title V permit – a far more complex and detailed application process). Information on permit types and applications is located online on the department's website at http://www.maricopa.gov/aq/divisions/permit_engineering/applications/Default.aspx

Helpful Hint

Portable sources that operate exclusively in Maricopa County must obtain a Non-Title V portable permit from the department. Portable sources that do not operate exclusively in Maricopa County must obtain permit authorization from ADEQ. See Section 9 for additional information concerning portable sources.

Completed applications should be submitted, along with payment of the fee, to:

Walk-in and Mail:
Air Quality Department
1001 N Central Ave, Suite 125
Phoenix, Arizona 85004

Or

Walk-in only:
MCAQD One Stop Shop Permit
501 North 44th Street Suite 200
Phoenix, Arizona 85008

Non-Fee related renewals or plan updates can be sent by Email to: AQPermits@mail.maricopa.gov

When submitting an application, an initial fee needs to be submitted in order to begin the permit engineering process. This fee will be noted on the first page of the Non-Title V application. If the permit application is mailed to One Stop Shop, the payment must be by check or money order. If the application is hand delivered to One Stop Shop, you can also pay by cash or credit card. Make checks payable to "Maricopa County Air Quality Department" or "MCAQD".

Before a permit can be issued, the department will issue an invoice to the permit applicant for all permit processing time – staff time is charged on an hourly basis at a pre-determined hourly rate. This invoice must be paid in full prior to the department issuing a permit. It is important to have a clear understanding of the potential charges that may be incurred anytime a permit application is submitted – including minor permit modifications.

Public Notice and Public Hearings

The permitting process includes public notice and, in certain circumstances, a public hearing. Should a public hearing be required, the applicant and members of the public have an opportunity to provide comments related to the permit application. The department will not respond to comments made during the hearing. Instead, the department receives the verbal comments and provides responses, as appropriate, in writing, when the permitting action is complete.

Helpful Hint

Be a good neighbor. Provide information about your plans and solicit public input long before the formal public notice period and public hearing. For a permit renewal, it may be desirable to conduct an open house to allow members of the community to better understand a facility's operations and to know what you do to control dust emissions.

Permit Renewal: What to Do When Your Permit is about to Expire

An operating permit issued under Rule 316 is valid for a five year period. Start to plan for a permit

renewal well before your current permit is about to expire. Renewal applications must be submitted at least six months prior to the expiration of the existing permit.

Permit Termination: When are Nonmetallic Mineral Processing Operations Completed?

A facility remains subject to Rule 316 while non-metallic mineral processing operations continue. Once the facility is no longer engaged in those operations the facility may require a revision to its permit.

Example: The site becomes a landscaping business that sells left over rock products.

A permit revision may be necessary for a number of reasons, for example:

- ✓ adding new equipment that trigger new applicable requirements
- ✓ modifying existing equipment that trigger a new applicable requirement
- ✓ increasing operating hours or production rates above permitted levels
- ✓ establishing or changing an emissions cap
- ✓ changing the name, address or phone number of the permittee

The permit revision procedure depends on whether it is an administrative, minor or non-minor permit revision. Additional information and forms are located on the department's website at:

http://www.maricopa.gov/aq/divisions/permit_engineering/applications/Default.aspx

Helpful Hint

The department's permit engineer can be a resource to you when reviewing your draft conditions or modifying your permit.

The Dust Control Plan (316 §311)

A Dust Control Plan describes all fugitive dust control measures to be implemented at a site. The Dust Control Plan is completed by the applicant and submitted as part of the permit application. The form is located online on the department's website at: http://www.maricopa.gov/aq/divisions/permit_engineering/docs/pdf/DustControlPlan.pdf

The Dust Control Plan is an integral part of the permit. Given its importance, consider having the Dust Control Plan completed by someone familiar with dust-generating operations. The department reviews and approves each Dust Control Plan for completeness and technical accuracy.

Helpful Hint

Those members of your team who are most familiar with onsite activity should be consulted when completing the Dust Control Plan and Operations and Maintenance Plan (O&M Plan).

Updating the Dust Control Plan

The approved Dust Control Plan can be revised at the initiative of the permit holder ***or*** as directed by the department.

Revisions to the Dust Control Plan are not effective at time of submittal—they must be approved by the department before becoming effective. Changes to the Dust Control Plan required by the department's Control Officer must be submitted within 3 working days of receipt of the control officer's directive.

Changes Made at the Initiative of the Permit Holder

The permit holder may request changes to the Dust Control Plan for:

- ✓ equipment changes
- ✓ changes in dust control personnel and/or their contact information
- ✓ substantive changes in operations
- ✓ any change requested by the Fugitive Dust Control Technician or designated site representative.
- ✓ changes to primary or contingency control measures
- ✓ alternative plan for soil moisture testing

Helpful Hint

The Dust Control Plan does not need to be revised to reduce the frequency of moisture tests in accordance with Rule 316, Section 301.2(c)(3)(c).

Changes Required by the Department

At times, dust emissions may continue to occur even if the control measures contained in the Dust Control Plan are followed. When this occurs, the department will issue a notice to the permit holder requiring revisions to the Dust Control Plan. The permit holder must submit required revisions within 3 working

days of receipt of the notice. If more than 3 working days are needed, the permit holder can request an extension for good cause. Even if the extension is granted, compliance with Rule 316 is expected immediately.

Helpful Hint

OPEN YOUR MAIL – often documents will have a deadline or action date included. Don't miss critical deadlines by failing to open mail from the department immediately.

How is the Approved Dust Control Plan Used?

From the department's perspective, the approved Dust Control Plan is a contract between the permit holder and the department—its terms are enforceable. The dust control measures included in the Dust Control Plan are the measures that inspectors will expect you to apply to your site. The Dust Control Plan does not supersede Rule 316.

Generally, primary controls listed in the plan should be used first. Contingency measures are to be used when the primary controls are not effectively controlling dust emissions. If the contingency measures are not effective you should shut down operations until they can be effectively controlled.

If primary controls or contingency measures don't result in effective control, the approved Dust Control Plan must be revised. The obligation is clearly on the permit holder to control dust emissions. If emissions cannot be adequately controlled using all available measures, the facility will be in violation of Rule 316 and subject to enforcement by the department.

Definitions

Primary Control Measure- The first approach you implement to control dust emissions

Contingency Control Measure- The backup strategy to be used when the primary control measure is not effectively controlling dust emissions

Helpful Hint

-Refer to appendix to see an example of a completed dust control plan.

The Operations and Maintenance (O&M) Plan (316 §305)

In addition to the Dust Control Plan, sources subject to Rule 316 must also develop an O&M Plan for all Emission Control Systems (ECS) and for all equipment associated with fugitive dust emissions and fugitive dust control measures (e.g., gravel pads, wheel washers, truck washers, rumble grates, watering systems, and street sweepers).

The O&M Plan is completed by the applicant and must be submitted prior to startup of the equipment subject to the plan. The form is located online on the department's website at: http://www.maricopa.gov/aq/divisions/permit_engineering/applications/Default.aspx

The O&M Plan should be completed by someone familiar with dust-generating operations. The department reviews each O&M Plan for completeness and technical accuracy.

Updating the Operations and Maintenance Plan

Changes to an existing O&M Plan can be made for a variety of reasons, including:

- ✓ equipment changes
- ✓ substantive changes in operations
- ✓ changes in monitoring parameters
- ✓ changes in maintenance procedures

Changes should be made by submitting a complete, revised O&M Plan with a cover letter identifying all changes and the reason for such changes.

The Department's approval is not required before implementing the changes in a submitted O&M Plan. If the O&M plan is subsequently found to be deficient, the County will send a letter to the source notifying them the plan was denied and instructions on how to proceed.

Section 3 - Approved Training

What Training is Required? (316 §309 and §310)

Rule 316 requires certain personnel at a permitted site to receive training on regulatory requirement and dust control strategies. The level of required training and which personnel must be trained depends on the amount of acreage disturbed within the permitted area and the rated or permitted capacity of the facility.

All water truck and water pull drivers must complete a 316 Basic Dust Control Training Class. Site superintendents (or other designated representatives) at sites that have more than one acre of disturbed surface area but less than 5 acres, must also complete the 316 Basic Dust Training Class. Facilities with a rated or permitted capacity of 25 tons per hour or projects that have a disturbed surface area of five acres or more must have a Fugitive Dust Control Technician, who must complete the 316 Comprehensive Dust Control Training Class.

Where and When is Training Offered?

The department conducts Rule 316 training at its offices in Phoenix. Classes are offered once a month and the schedule and registration information can be found at: http://www.maricopa.gov/aq/divisions/compliance/dust/dust_control_training/rule316training.aspx

Certification

There are two levels of certification: basic and comprehensive

Basic Certification

To earn basic certification, individuals must complete a three-hour training course. Water truck and water pull drivers are required to earn the "basic" level of certification.

Facilities that have greater than 1 acre disturbed, but less than 5 acres disturbed and a rated capacity less than 25 tons per hour are required to designate an on-site representative who has earned basic certification. Employees required to have the basic dust training must renew their training certification once every three years.

Comprehensive Certification for Fugitive Dust Control Technicians

Comprehensive training is a six-hour training that covers dust control measures in detail. Individuals who complete this training earn comprehensive certification and may be designated as a Fugitive Dust Control Technician.

A certified Fugitive Dust Control Technician must *be identified and be present at all times during primary dust-generating activities at f*acilities that have a rated or permitted capacity of 25 tons or more of material per hour or where the surface disturbance is 5 or more acres.

Helpful Hint

If a site's sole Fugitive Dust Control Technician misses work or must leave early, primary dust generating activities must be shut down. Train several employees to avoid this scenario.

A Fugitive Dust Control Technician must complete the comprehensive training program once every three years.

Fugitive Dust Control Technicians:

- Are required at facilities that have a rated or permitted capacity of 25 tons per hour or on projects that disturb five or more acres
- Must have earned the comprehensive certification
- Must be onsite during primary dust-generating activities related to the purposes for which the permit was obtained.
- Must be certified to determine opacity
- Must be authorized to ensure that fugitive dust control measures are implemented on-site.

Helpful Hint

The need for the Fugitive Dust Control Technician to be onsite during primary dust-generating activities cannot be over emphasized. Experience has shown that violations often result when the Fugitive Dust Control Technician is not available to oversee operations.

Helpful Hint

For a crushing and screening facility, "the primary dust generating operations", are those related to the purposes for which the permit was obtained. If, however, the only activity onsite is not related to "primary dust generating operations" the Fugitive Dust Control Technician need not be onsite. For example, delivery of mail or office supplies, security patrols and other incidental activities would not constitute "primary dust generating activities."

Helpful Hint

Maintain a legible photocopy of the certification card for each trained personnel member in a file or binder located onsite so that it is accessible during an inspection.

Fugitive Dust Control Technicians:

The department's director has the authority to suspend or revoke the Basic or Comprehensive Dust Control certification for cause. For cause means:

- inappropriate ethical activities or conduct associated with the dust control program or
- repeated failure to follow training requirements

Smoke School

Visible Emission Certification

Fugitive Dust Control Technicians must be certified to determine opacity as visible emissions in accordance with the provisions of EPA Method 9. Certification can be obtained through "smoke school." The department does not have a certification or approval program for smoke school providers and cannot make any recommendations for or against any providers. The list below was prepared to offer assistance to individuals who may be looking for that service. Please note that selection of a smoke school provider is not limited to those that appear on this list.

ASU Smoke School
Contact: Al Brown
(480) 727-1322

Carl Koontz Associates
Contact: Carl Koontz
(615) 889-9494

Arizona Smoke School
Contact: Fred Elis
(480) 226-0945

Compliance Assurance Associates
Contact: Jeff Johns
(901) 381-9960 ext. 304

Section 4 - Permit Signage and Recordkeeping

Project Information Signs (Rule 316 §308)

Information to Include

For all sites the project information sign must use black text size of at least four inches high on a white background) and be placed at the main entrance of the site where it can be clearly viewed by the public. The sign must contain the information shown below:

- ✓ facility name
- ✓ permit holder's name
- ✓ current permit number or number of authority to operate under a general permit
- ✓ name and local phone number of person(s) responsible for dust control

In addition, your sign must include the following text:

Dust Complaints?
Call Maricopa County Air Quality Department
(602) 372-2703 or 602-506-6010

Note: Should the department's official complaint phone number ever change, the department will send a notice to all permit holders providing the new number.

When to Update the Sign

You must change your project information sign to reflect changes such as:

- ✓ a new contact name or phone number
- ✓ a change in the facility name
- ✓ a new permit number

Where to Post the Sign

At the main entrance to the site.

One purpose of the signage requirement is to provide the public with information about the permit status of the project, and the sign should be posted where that information is most prominently observed by members of the public.

Helpful Hint

To avoid uncertainty when multiple entrances are used, a permit holder is encouraged to place signs at each site access point, especially where another project entrance is more visible to the public. However, only one sign is required by Rule 316.

If only one sign is posted, it should be placed at the location that would be viewed by members of the public as the main entrance to the site.

Recordkeeping (Rule 316 §501)

What Records are Required?

- ✓ The Permit And All Updates (Must Be On Site).
- ✓ The Dust Control Plan And All Updates (Must Be On Site).
- ✓ The Operations And Maintenance Plan And All Updates (Must Be On Site).
- ✓ Records Of Process And Operational Information For Each Day Of Operation, Including:
  - o Hours of operation
  - o Type of batch operation
  - o Daily throughput of raw materials
  - o Volume of concrete/asphaltic concrete produced
  - o Volume of aggregate mined
  - o Amount of each raw material delivered
  - o Number of aggregate trucks, mixer trucks, or batch trucks exiting facility per day (*only for facilities that seek reduced compliance obligations available to facilities with less than 60 trucks exiting facility per day*)
  - o Spray system nozzle maintenance with date, time, and location; unless modified by the approved O&M Plan
  - o At dry mix concrete plants and/or bagging operations the following information is required to be collected on a daily basis in addition to the above:
    - Number of bags of dry mix produced
    - Weight of bags
    - Kind and amount of fuel consumed in dryer
    - Kind and amount of any back-up fuel

- ✓ Control And Monitoring Device Data
  - o For a fabric filter baghouse:
    - Date of inspection;
    - Date and designation of bag replacement;
    - Date of service or maintenance related activities; and
    - Time, date, and cause of fabric filter baghouse failure and/or down time, if applicable.
  - o For a scrubber:
    - Date of service or maintenance related activities;
    - Liquid flow rate;
    - Other operating parameters that need to be monitored to assure that the scrubber is functioning properly and operating within design parameters; and
    - Time, date, and cause of scrubber failure and/or down time, if applicable.
  - o For soil moisture testing:
    - Date, time, and location of each moisture sampling point; and
    - Results of moisture testing.
- ✓ O&M Plan Records
  - o For any ECS, any other emission processing equipment, and any ECS monitoring devices that are used pursuant to this rule or to an air pollution control permit:
    - Periods of time that an approved ECS is operating to comply with this rule;
    - Periods of time that an approved ECS is not operating;
    - Flow rates;
    - Pressure drops;
    - Other conditions necessary to determine if the approved ECS is functioning properly;
    - Results of visual inspections; and
    - Correction action taken, if necessary.
  - o For equipment associated with any process fugitive emissions and any fugitive dust control measures:
    - A written record of self-inspection on each day that a facility is actively operating. Self-inspection records shall include daily inspections or in compliance with O&M Plan requirements, whichever is more frequent;
    - Maintenance of street sweepers; and
    - Maintenance of trackout control devices, gravel pads, wheel washers, and truck washers.
- ✓ Dust control plan records documenting dust control measures used each day
- ✓ Records of operation and maintenance for ancillary equipment such as generators

Records are required for each working day. A day is defined as a period of 24 consecutive hours beginning at midnight.

Helpful Hints

- ✓ While no exact format is prescribed for recordkeeping, a three-ring binder is recommended for paper records.
- ✓ Electronic recordkeeping is a valid form of recordkeeping.
- ✓ A scanned copy of the Dust Control Permit accessible on a computer is an acceptable way to maintain an onsite copy.
- ✓ While business records maintained in the normal course of business may be used, those records should provide specific information that pertains to the request made by the department.

Document Retention and Availability

Records must be maintained onsite (in paper or electronic form) and made available immediately upon request. However, the department may use its discretion to provide additional time to submit records when deemed appropriate.

All records must be retained for five years.

Dust Control Plan Records

Each day a self-inspection by the permit holder must be conducted with notes taken to document observations. This is an important document and can be used to show that site conditions have been carefully controlled. Critical information that is required by Rule 316 includes:

- ✓ trackout conditions and actions taken to clean up trackout.
- ✓ dust suppressant application.
- ✓ when street sweeping occurred.
- ✓ maintenance of trackout controls (what kind and when installed).
- ✓ what kind and when contingency measures in the Dust Control Plan were used.
- ✓ a list of employees who have completed dust control training, the date of the class, and the name of the company or person who did the training. Keep copies of training certificates on file.
- ✓ all supporting documentation (e.g., street sweeping or water truck receipts).
- ✓ types and results of all test methods conducted (e.g., moisture sampling records).

Helpful Hint

Other rules and requirements impose additional monitoring and recordkeeping requirements. Your permit identifies all applicable requirements.

This example of a completed record keeping form can be found online at:
http://www.maricopa.gov/aq/divisions/compliance/dust/docs/pdf/CompletedSampleDailyLogV1.0-25Jun08.pdf

RULE 310 SECTION 502 DUST CONTROL RECORD KEEPING FORMS

SELF INSPECTION AND CONTROL MEASURE APPLICATION MCAQD PERMIT #: E089999

DATE		Trackout Control Device	Trackout	STABILIZATION: Parking/staging	STABILIZATION: Unpaved Roads	STABILIZATION: Open Areas	STABILIZATION: Storage Piles	Water Application	Water Supply
1-May-08	Self Inspection	0730: Exit 2: 1" river rock, 3" deep, 55' long, 20' wide. Exit 1: paved.	1200: Trackout measured 20 ft. 1315: 50 ft, phoned street sweeper.	0845: Visibly moist, visible emissions < 20% opacity	0630: No visible emissions observed. 1200: No visible emissions.	0845: Soil crust. 1315: Some crust break down, called in water truck with side sprayer. Silt fence in place.	0845: Visibly moist, no visible emissions. 1315: Visible soil crust.	0430: Observed pre-watering entire site (10k gal truck). 0845: Watering continues: 1 water pull for mass grade, 1 water buffalo.	1 million gallon water pond full at 8:45 AM
		P / C Maintenance	P / C Cleaning	P / C Moisture / Crust	P / C Moisture / Crust	P / C Moisture / Crust	P / C Moisture / Crust	P / C App. Equipment	P / C Source
	Control Measure Application - Method, Frequency, Intensity	0630: Removed Exit 1 gravel pad, transitioned to asphalt. Exit 2 gravel refreshed.	1200: Brooms. 1330: contingency - street sweeper arrived.	0830: Applied 10K gals. water. 1000: Implemented Contingency, applied gravel. **Primary not enough.**	Stabilizer applied 21 March 08 (Gorilla Snot).	Applied 30K gals. Water and Installed silt fence to restrict access 10March 08	0800: 5K gals. water applied.	Total daily application of 45K gals via water pull and water buffalo. Brooms and street sweeper.	Water Pond and 4 - 3" metered hydrants
2-May-08	Self Inspection	0500: Asphalt TOCD. In good repair, no maint. needed. No haul operation scheduled.	0500: No trackout. 0900: 20' of trackout on Central Ave at East Exit.	0500: Pea gravel in place, no bare spots or need for refreshing. 1500: Observed visible emission < 20%.	0500: Speed limit signs in place. 0530: Observed trades vehicles in excess of 20 trips, began contingency plan.	0500: Soil crust (temp. inactive areas), visible moisture in active disturbed areas.	0500: Visible soil crust on all spoils piles. 0900: Visible soil crust, no spoils activity.	0500: 2 water trucks operational	0500: One 3" metered hydrant, operational.
		P / C Maintenance	P / C Cleaning	P / C Moisture / Crust	P / C Moisture / Crust	P / C Moisture / Crust	P / C Moisture / Crust	P / C App. Equipment	P / C Source
	Control Measure Application - Method, Frequency, Intensity	Asphalt TOCD. In good repair, no maintenance needed.	0900: Swept 20' of trackout manually.	0500: No action required. 1530: Sprayed area with water at end of work day.	0500: No action. 0530: 25K gal. water application.	0430: Pre-watered all active and inactive disturbed areas. (35K gals)	0500: No action required. 0900: N/A	Total daily water application 110K gals. Brooms and street sweeper for trackout clean up.	Metered hydrant and Klein tank full at end of day.
02 May 08 cont.	Self Inspection	1530: Asphalt TOCD. In good repair, no maint. needed. End of work day.	1530: Observed 150 feet of trackout (Central Ave Exit).	N/A	0900: Haul road dry, > 20% visible emissions, phoned water truck.	0530: Inactive areas crusted, active areas drying out, phoned water truck, to stay in area all day long.	1100: Large spoils pile in SWC disturbed, partially crusted, phoned water buffalo. 1530: Visibly wet.	N/A	N/A
		P / C Maintenance	P / C Cleaning	P / C Moisture / Crust	P / C Moisture / Crust	P / C Moisture / Crust	P / C Moisture / Crust	P / C App. Equipment	P / C Source
	Control Measure Application - Method, Frequency, Intensity	Asphalt TOCD. In good repair, no maintenance needed.	1545: Mr. Dirt street sweeper cleaned (Central Ave).	N/A	0900 - 1530: 10K water truck devoted to haul road. (50K gals total application).	0545: 60K gals water application to active areas through end of work day.	1100: 5K gals applied to large spoils pile at SWC. 1530: No action required.	N/A	N/A

*Maricopa County Rule 310 S502: A list of subcontractor names & registration numbers, as well as employee names who have successfully completed dust control training classes must be

Section 5 - Trackout

Trackout is one of the most frequently cited violations by the department's inspectors and ***controlling trackout should be a priority at any facility.*** The department defines trackout as:

"Any and all bulk materials that adhere to and agglomerate on the surfaces of motor vehicles, haul trucks, and/or equipment (including tires) and that have fallen or been deposited onto a paved area accessible to the public."

The existence of trackout should be closely monitored at any facility – especially when weather conditions make the possibility of trackout more likely. Trackout is easily observed on paved surfaces and the emissions generated by passing vehicles often generate complaints to the department.

Note: Internal paved roads will be addressed under the street sweeping section.

Trackout Clean-up Requirements

There are two principal trackout requirements:

> *Trackout must be removed immediately when the cumulative distance of the trackout reaches 25 feet*.
>
> *Trackout less than 25 feet in cumulative length must be cleaned up at the end of the workday.*

Cumulative Distance

If there is a clear and continuous trail of trackout exiting a facility, and the measured distance of the trackout is 25 feet or more, then the obligation of the facility from which the trackout emerges is to remove the trackout immediately. Any trackout from a facility regulated under Rule 316 must be addressed by the facility regardless of whomever may have caused the trackout.

The moment an inspector arrives at a facility and sees trackout 25 feet or greater, a violation can be cited. However, an inspector may wait a short time to observe if any effort is underway before issuing a citation. While an inspector may engage in this practice, there is no obligation on the part of the inspector to allow any additional time if active cleanup is not observed when an inspector first arrives at a facility.

If an inspector is at a facility and observes a truck exiting the facility and leaving 100' of trackout, no violation would occur provided the facility is observing the trackout and initiates the cleanup process. The key issue for the inspector is the responsiveness of the facility and whether trackout is being removed immediately after placement should the trackout equal or exceed 25' in length.

Trackout does not need to be observed as a continuous trail. If the trackout is not continuous then the distinct areas of trackout can be measured to determine if together, 25 feet or more of trackout is present. If the facility has more than one exit, the trackout from each exit may be aggregated to reach the 25 foot threshold. For example, Exit 1 may have ten feet of trackout and Exit 2 may have 20 feet of trackout. Together they constitute 30 feet of trackout and trackout at both exists must be removed immediately.

At the end of the business day, all trackout must be removed. If an inspector visits a site after working hours, the presence of any remaining trackout is a violation and will be cited.

Note: Under the right circumstances, even a small amount of trackout (less than 25 feet) could potentially result in an opacity violation if it is driven over or otherwise disturbed.

Spillage

Spillage refers to *any quantity* of nonmetallic mineral material that is located in an area where it can contribute to dust generation. Any spillage on paved haul/access roads must be removed promptly or stabilized in place and removed by the end of each work day. If the spillage is not on paved haul/access roads it must be stabilized until removal (removal is not required by the end of the work day).

Know the Difference between Trackout and Staining

Trackout is the presence of material deposited on a road surface. Trackout can become airborne particulate matter when vehicles pass over and entrain the trackout into the air. In contrast, staining on a road surface is not considered to be trackout (if it is not deposited on top but in the crevices of the road). While staining may indicate that trackout

may have been present at some time in the past, staining itself is not considered trackout under Rule 316, nor is it a violation.

Helpful Hint

Plan ahead and anticipate that trackout will occur.

"Trackout is an obvious indicator of potential non-compliance. Taking the time to assess the presence and scope of trackout and whether immediate attention is required is an essential practice to maintain compliance"

—Air Quality Inspector

Helpful Hint

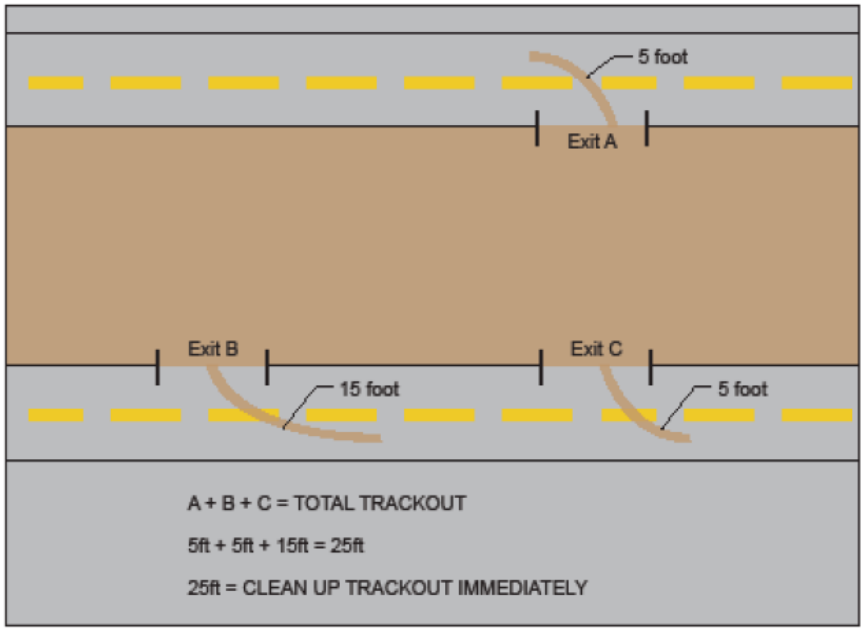
As a practical matter, it may be easier to clean up trackout immediately rather than measure it to ensure there is less than 25 feet of trackout present. The presence of trackout, however limited in extent, can trigger an inspection for other aspects of Rule 316 compliance.

Remember: erosion is considered the same as trackout and must be managed accordingly.

Trackout

Staining

Trackout



Calculating cumulative distance

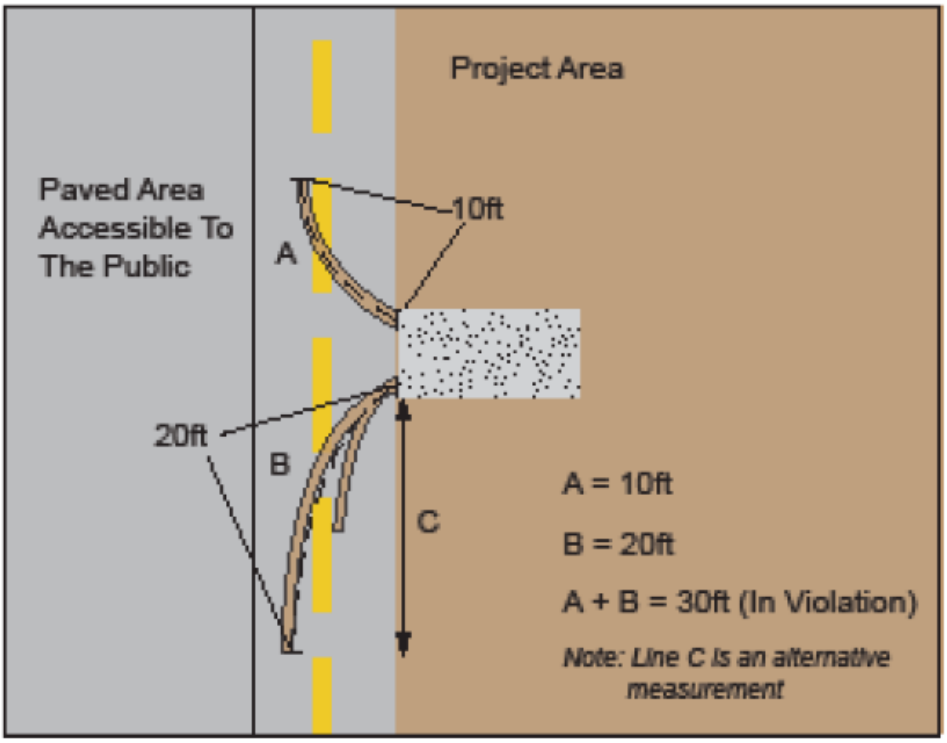
Measuring Trackout

The distance of individual trackout paths originating from a permitted area are combined to determine compliance. Here, three trackout paths cumulatively total 25 feet.

When trackout reaches a cumulative distance of 25 feet it must be cleaned up immediately.

Trackout is measured from an exit onto a paved surface and along the path of trackout to the point where it ends. This may follow the actual curved path of trackout or the horizontal distance may be used instead (especially where traffic/safety is a concern). Line C in the graphic below is an example. (trackout on sidewalks and gutters are included in determining the total amount of trackout present)

The graphic at right shows trackout extending from the exit of a permitted area. The gray rectangle represents a gravel pad.
While trackout can be measured by using a surveyor's wheel, on busy streets, the inspector may measure the distance along a line adjacent to the road (represented by line C) to determine trackout length.
An inspector may also use paces or a range finder to measure distance.
In both examples on this page, trackout has reached or exceeded 25 feet in cumulative distance and must be cleaned immediately.



Measuring trackout

Street Sweepers

Sweepers purchased after June 8, 2005 must meet standards established in Rule 316. South Coast Air Quality Management Rule 1186 certified street sweepers must be used if purchased after this date. If the facility purchased sweepers prior to June 2005, those sweepers may continue to be used. Any newly permitted facility (after June 8, 2005) must use South Coast Air Quality Management Rule 1186 certified street sweepers.

Trackout Control Devices

Trackout controls are required at all facilities unless the entire facility is paved or the facility traffic exits onto unpaved roads. The required trackout control method varies depending on whether the facility is new or existing, temporary or permanent, and whether a minimum of 60 aggregate trucks, mixer trucks, or batch trucks exit the facility on any given day.

Permanent Facilities with 60 or More Trucks Exiting a Facility on any Given Day

Any new or existing permanent facility that has greater than or equal to 60 trucks exiting onto paved areas accessible to the public are required to install a rumble grate and wheel washer at all facility exits. A facility that occupies a site for more than 180 days per year is considered to be a permanent facility.

The rumble grate must be located within 10 feet of the wheel washer and must consist of raised dividers that are a minimum of 3 inches tall, six inches apart and 20 feet long. Rumble grates installed before June 12, 2008 are grandfathered and do not have to meet the specified dimensions provided it is shown that the existing device can adequately control trackout. If the rumble grate is moved or modified in any way, it must meet the existing requirements. A 5 mph sign must be posted by the rumble grate.

The wheel washer must be capable of washing the entire circumference of each wheel of the vehicle. If an alternative wash system (e.g. cosmetic wash or vehicle wash) is used to comply with wheel washer regulations it must have at least 40 pounds psi water spray from the nozzle. A gauge to show that the alternative wash system is operating at 40psi will need to be installed and monitored, as stated in the O&M Plan. A 5mph sign must be posted by the wheel wash system. An exemption for a wheel washer may be obtained if the facility complies with any one of the following:

- The facility has all paved roads and meters aggregate or related materials directly to a ready-mix or hot mix asphalt truck (excepting returned products).
- The facility is less than 5 acres of land size and handles recycled asphalt and recycled concrete exclusively. In this case, a rumble grate *and* gravel pad must be used on all unpaved roads leading to exits onto a paved road accessible to the public.
- The facility has a minimum of ¼ mile of paved road from the rumble grate to an exit onto a paved road accessible to the public.
- The facility operates infrequently (operates no more than 52 days each year averaged over the past three years). In this case, a rumble grate and a gravel pad must be used and the gravel pad must be no more than 100 feet from the exit onto a paved road accessible to the public. Records indicating the days the facility operated must be maintained to qualify for this status.

These controls must be located at least 30 feet from the facility exit. If there is not adequate space to install the devices at least 30 feet from the facility exit, a shorter distance may be allowed. Alternative location/placement of the devices should be specified in the Dust Control Plan with an explanation of why the location was chosen.

All trucks exiting the facility must exit the facility via the rumble grate first and then the wheel washer. At no time should the trucks exiting the facility, cross over an unpaved surface prior to reaching the paved area accessible to the public.

Rumble Grate and Wheel Washer

Portable Facilities and Facilities with Less than 60 Trucks Exiting on a Day

Any permanent facilities with less than 60 trucks exiting every day and any portable facility that has traffic exiting onto paved areas accessible to the public are required to install a rumble grate or

wheel washer or truck washer (alternative wash system) at all facility exits.

The rumble grate or wheel washer must be located at least 30 feet from the facility exit.

Rumble grates must consist of raised dividers that are a minimum of 3 inches tall, six inches apart and 20 feet long. Rumble grates installed before June 12, 2008 are grandfathered and do not have to meet the specified dimensions provided it is shown that the existing device can adequately control trackout. If the rumble grate is moved or modified in any way, it must meet the existing requirements. A 5 mph sign must be posted by the rumble grate.

The wheel washer must be capable of washing the entire circumference of each wheel of the vehicle. If an alternative wash system (e.g. cosmetic wash or vehicle wash) is used to comply with wheel washer regulations it must have at least 40 pounds psi water spray from the nozzle. A gauge to show that the alternative wash system is operating at 40psi will need to be installed and monitored, as stated in the O&M Plan. A 5mph sign must be posted by the wheel wash system.

If there are unpaved surfaces between the rumble grates or wheel washers and the facility exit a gravel pad must be installed and maintained. The gravel pad must cover the entire unpaved area starting from the rumble grate or wheel washer and ending at the facility exit. Gravel pads must be 30 feet wide, 50 feet long, 6 inches deep, and contain rock that is at least 1 inch or larger in diameter. To ensure the gravel pad keeps its dimensions a stabilizing mechanism, e.g., curbs surrounding the perimeter, need to be installed.

Helpful Hint

When exits are changed at the facility, you must update your Dust Control Plan and ensure your rumble grate complies with the size requirements of the rule.

Helpful Hint

Questions to ask yourself:

- ✓ Is a trackout control device in place and effective?
- ✓ Does my trackout control device need maintenance?
- ✓ Do I adequately monitor trackout?
- ✓ Did I clean up trackout immediately if it equals or exceeds 25’ or at the end of the day?

Wheel Washer

Section 6 - Process Standards

The purpose of Rule 316 is to minimize the emissions from any non-metallic mineral processing plant. Most opacity and emission control standards are organized in Rule 316 by process type; e.g. crushing and screening, asphalt production, and raw material storage. Others are not specific to an operation but within the facility itself.

> **Helpful Hint**
>
> Include all process emission control systems in your O&M Plan and update O&M Plan whenever changes are made to ECS or ECS monitoring parameters.

Definitions:

Stack Emissions – The particulate matter emissions that are released to the atmosphere from capture system through a building, vent, stack or other point source discharge.

Fugitive Dust Emission – Particulate matter not collected by a capture system that is entrained in the ambient air and is caused from human and/or natural activities.

Crushing and Screening Opacity Limits

Opacity Limits for Crushing and Screening Operations are shown in the Table below.

Controls for Crushing and Screening Operations

Wet Material Processing

Moisture from water that is applied early in processing (e.g., at a wash plant) or already present in saturated materials at the initial point in the process can be an effective compliance tool for transfer points downstream in the process:

> "Carryover of water sprayed at affected facilities upstream in the process line is often sufficient to control fugitive emissions from affected facilities downstream in the process." EPA, 74 FR 19298 (Preamble for Standards of Performance for Nonmetallic Mineral Processing Plants)"

This "water carryover" can prevent visible emissions and meet the moisture content requirements established in the rule. When water carryover is present, additional water application may not be necessary (if the material remains in a storage pile before entering the process line, additional water application is required).

In addition, watering systems are specifically not required to be installed on operations that fall under the definition of a wet material processing operation. The department uses the NSPS definition of wet plants, which include both wet screening operations (wash plants) and wet mining operations, e.g. operations that process saturated material from below the water table. It is important to note these wash plants and/or wet mining operations and their related exemptions do not include crushing of material and that controls and testing (described below) will be required once the material has been processed through a crusher.

Controls for Plants Not Considered Wet Plants

To control fugitive dust from crushing and screening operations, a source must:

Equipment		Opacity Limit*	
		Prior to April 22, 2008	After April 22, 2008
Crushing and Screening:	Stack Emissions	7%	
	Transfer Points	7%	
	Crushers	15%	12%
Other process sources (e.g. mechanized screening)		10%	
Truck Dumping		20%	

*Opacity limit is dependent upon the date of construction, modification or reconstruction (see40 CFR 60.670 and §60.671).

- Enclose the sides of all shaker screens
    - The areas of the shaker screen where belt conveyors enter and exit do not need to be enclosed (and often cannot be due to MSHA requirements or the configuration of the conveyors). Emissions from these locations are instead controlled by water sprays.
- Permanently mount watering systems on:
    - The inlet and outlet of all crushers
    - The outlet of all shaker screens
    - The outlet of all material transfer points
- Operate watering systems to maintain 4% moisture
- Conduct soil moisture testing to show that 4% moisture is being met

Or

- Enclose the sides of all shaker screens and enclose and exhaust the regulated process to a properly sized fabric filter baghouse

Watering System

So, in order to comply with Rule 316, you need to be sure all watering systems are mounted, functional, and material has at least 4% moisture content or enclose the entire process and vent the emissions to a baghouse.

A facility can request a reduced minimum moisture content standard by submitting an explanation with its permit application. Prior approval from the department and EPA is required before the reduced moisture content standard can be implemented. The explanation needs to include an update to the Dust Control Plan that shows where the alternative moisture content is requested. Justification of why the lowered soil moisture content is being requested is required; reasons could include economics, emissions, water availability, technical feasibility, etc. Even though a request for reduced minimum moisture content has been submitted, a facility may not operate at the lower moisture level until specifically approved by the Control Officer.

It is important that the watering systems are able to function at any time. Check the watering systems every day that the crushing and screening operation is active to ensure the systems are functioning and note the observations in the Operation and Maintenance Plan records. If the watering systems are not functioning sufficient, to maintain the 4% minimum moisture content, immediately correct any problems before continuing and/or resuming operations.

Soil Moisture Testing

When properly applied, water serves as an excellent control method to minimize visible emissions. However, if not appropriately controlled, crushers, screens, and associated material transfer points can be a significant source of emissions.

Watering System

To show that the material running through the process is at the specified 4% minimum moisture content, soil moisture testing is required. In accordance with standard rounding conventions (see, e.g., EPA's approach for 8-hour ozone NAAQS), moisture content measurements of 3.5% or greater show compliance with the rule. To complete soil moisture testing, first determine how often and where samples will be taken from, then analyze the samples, and lastly record the results. The testing requirement is equipment specific. Accordingly, if a facility has 10 pieces of equipment, and only 5 operate on a given day, testing is required for only those units actually operating. If the operation is considered a wet plant, soil moisture testing is not applicable.

Frequency

- Moisture testing is required twice daily if the facility is required to have a Fugitive Dust Control Technician (i.e. has a rated capacity of 25 tons or more of material per hour or has five acres or greater disturbed land)

- The first sample needs be conducted within one hour of startup, second sample at 3:00 p.m. or within one hour prior to daily shutdown

Helpful Hint

When a facility is operated for less than two hours, a single test can be used to meet the requirement to test within one hour of startup and shutdown.

- Moisture testing is required once daily if the facility is not required to have a Fugitive Dust Control Technician (has a rated capacity of less than 25 tons of material per hour or has greater than 1 acre of disturbed surface area, but less than 5 acres disturbed land)
  - The moisture test needs to be conducted within one hour of start-up

Reducing Testing Frequency

In order to ease the burden of soil moisture testing, the department has created ways to reduce the frequency at which soil moisture testing must occur. The testing frequency can be reduced once a facility demonstrates compliance with the 4% standard for a minimum of four weeks. Once this occurs, testing is only required weekly. If the facility is required to perform testing twice daily, when the frequency is reduced, a test will be required twice on a single day, once a week. However, in the event the facility does not meet opacity limitations or has two consecutive soil moisture tests below 4%, then sampling and testing of material must return to the daily requirement.

Helpful Hint

A moisture content 3.5% or above, when rounded, would satisfy the 4% moisture content standard.

Helpful Hint

Neither notice or prior approval of the Department is required to switch to weekly sampling, however it is important to maintain records that demonstrate the facility's ability to make the switch.

Required Location of Sampling

Soil moisture testing is only required on material that is less than 0.25 inch in diameter (0.25 inch minus), this does include sand.

- Outlet of a crusher – within 10 feet from the point where crushed material is placed on the discharge belt
- Outlet of mechanized screens – within 10 feet from the point where screened material is placed on the conveyor
- From each stacker point – transfer of material from a conveyor to a stockpile
- Transfer point (conveyor to conveyor)

Reducing the Number of Sampling Points

The number of points required to sample could be quite large depending on the size of the facility. Another consideration is that sampling locations specified in Rule 316 may have safety issues associated with them. A facility can seek to reduce the number of sampling locations by submitting alternatives sampling locations to the department through a dust control plan modification. If samples cannot be taken because of safety or other issues, an alternative location must be proposed. Prior approval is required before implementing any such change.

The updated Dust Control Plan needs to include the following information:

- Document showing that a minimum of 20 samples have been taken from all required points. Where safety issues may arise an alternative sampling location(s) requests may be submitted for department approval.
- Results showing that the primary crusher had a minimum moisture content of at least 5% and all other sampling points had a minimum moisture content of at least 4%

Testing Methods

In general, moisture testing must be conducted in accordance with ASTM C566-97, except that smaller samples may be used. In addition to ASTM C566-97, EPA and the department have approved the use of the Speedy Moisture Meter.

Speedy Moisture Testing Equipment

Further information concerning this alternative, and the prerequisites to using it, can be found on the Department's website at: http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/Concurrence%20on%20Alternative%20Moisture%20Testing%20Method%20with%20Speedy%20Moisture%20Meter.pdf

Permittees may submit requests for other alternative testing methods. However, prior approval by the department and EPA is required before alternatives can be used.

Performance Testing Requirements for Crushing and Screening Operations

The federal regulation regarding visible emissions performance testing at non-metallic mineral processing plants was amended in 2009.

- Stationary plants are required to test if they have the capacity to operate at greater than 25 tons per hour.
- Portable plants are required to test if they have the capacity to operate at greater than 150 tons per hour.

Common clay plants and pumice plants with capacities of 10 tons or less, and wet plants are exempt from this standard.

Testing needs to be performed within 60 days of the permit issuance date or within 60 days after the new applicable equipment has achieved the capability to operate at its maximum production rate. An extension to test (up to 180 days) can be requested through the department, but it must be for good cause. If the initial performance test date falls during a seasonal shut down, then with approval from the permitting authority, the owner/operator may postpone the initial performance test until no later than 60 calendar days after resuming operation. Seasonal shut down is defined as a shutdown of an affected facility for a period of at least 45 consecutive days due to weather or seasonal market conditions.

To conduct the test, VE certification is required and notification of testing needs to be submitted to the department at least 7 day prior to testing. The department will want to verify the points to be tested by submittal of dust control plan with numbers indicating test locations. Visible emission observations will occur at all screens, crushers, transfer points, and if applicable all bucket elevators, bagging operation, and enclosed truck or railcar loading stations. Each point aforementioned will need to be observed for 30 minutes total; a total of five 6-minute averages. The visible emission evaluation must be conducted from a minimum of 15 feet away. Up to three emission points can be read at one time if emission points are within a 70° viewing sector. If one of the three points equals or exceeds the applicable standard (see below), the observer must continue reading from just that single point.

Once the performance test is complete, the facility needs to submit written reports of the results, including areas that were tested and opacity observations made.

Visible Emission Performance Testing – Applicable Standards

Facilities that commenced construction, modification or reconstruction before April 22, 2008	Opacity Limit
Stack Emissions	≤ 7%
Crusher Emissions	≤ 15%
Transfer Point/ Screen Emissions	≤ 7%

Facilities that commenced construction, modification or reconstruction after April 22, 2008	Opacity Limit
Stack Emissions	≤ 7%
Crusher Emissions	≤ 12%
Transfer Point/ Screen Emissions	≤ 7%

Asphaltic Concrete Plants

Opacity Limits for Asphaltic Concrete Plants

Equipment		Opacity Limit
Asphaltic Concrete Plants:	stack emissions (non-rubberized)	5%
	stack emissions (rubberized)	20%
Stack Emissions from Raw Material Storage Silos		10%
Other process sources (e.g. mechanized screening and bucket conveyors)		10%
Truck Dumping		20%

Controls for Asphaltic Concrete Plants

Asphalt plant drum dryers must be controlled and vented to a fabric filter baghouse or a wet scrubber.

Shaker screens at hot mix asphalt plants are subject to an alternative moisture content requirement. In 2009, the Arizona Rocks Product Association requested an alternative standard and submitted a demonstration explaining why the 4% moisture content was not appropriate for hot mix asphalt plants. The Department and EPA concurred with demonstration and granted the request. Accordingly, hot mix asphalt plants must meet either a minimum moisture content of 2.5% for unwashed feed products or 2% moisture content for washed feed products. Justification for the alternative standard and EPA's concurrence can be found on the Department's website at:

http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/Concurrence%20on%20Alternative%20moisture%20Content%20Requirements%20for%20Hot%20Mix%20Asphalt%20Plants.pdf

Performance Testing Requirements for Asphaltic Concrete Plants

Asphalt plants will be required to conduct performance testing. A performance test is conducted to show that control devices (e.g drum dryer baghouse) are operating correctly, so that emission levels are controlled. Performance tests are conducted by a third party testing company and observed by Maricopa County Test Engineers. Helpful information regarding performance testing can be found on our website:

http://www.maricopa.gov/aq/divisions/compliance/air/resources.aspx#guide

Testing must be conducted with 60 days of the permit issuance or within 60 days after startup of new applicable (whichever occurs last). The deadline may be extended up to 180 days if the request is approved by the department.

Open Baghouse

Raw Material Storage

Opacity Limits for Raw Material Storage

Raw material storage includes the following: raw material storage and distribution, concrete plants, bagging operations, and concrete product facilities. The following opacity limits apply:

Equipment	Opacity Limit
Stack Emissions from Raw Material Storage and Distribution, Concrete Plants, or Bagging Operations	5%
Other process sources (conveying systems and transfer points)	10%
Truck Dumping	20%

Controls for Raw Material Storage

All cement, lime and fly-ash storage silos must have an operational overflow warning device that alerts the operator to stop loading operations when the silos reach capacity.

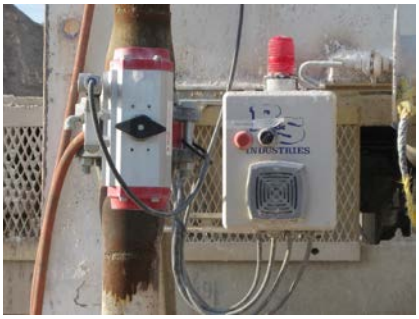
Cement silos must also have a pressure control system designed to shut-off cement silo filling processes and loading operations when pressures exceed the levels set for in the applicable O&M Plan.

New cement, lime and fly-ash storage must also install a baghouse or equivalent device to meet a maximum outlet grain loading of 0.01 gr/dscf.

Owners or operators of concrete plant loading stations must install a rubber fill tube, a water spray, or a baghouse, or enclose stations so that no visible emissions occur.

Helpful Hint

Include all process emission control systems in your O&M Plan and update the O&M Plan whenever changes are made to ECS monitoring parameters or the ECS.



Section 7 – Fugitive Dust Emission Limitations

Opacity Standard

While specific process emissions have more stringent requirements, visible emissions not associated with processes can never exceed 20% opacity. Rule 316 requires that an individual have the ability to identify the opacity of emissions. The Fugitive Dust Control Coordinator must have received visible emission certification. This will ensure that individuals responsible for dust control are able to determine opacity values. If visible emissions are observed coming from a process or from other areas located within the facility boundary they must be evaluated, controls implemented, and operations ceased if emissions cannot be controlled.

Visible emissions can be observed and evaluated, by the inspector, from any vantage point whether within the facility or from outside. Depending on the location of the emissions and the time of day, the inspector may conduct a Visible Emission Evaluation (VEE) to determine if the opacity is exceeding specified limits and to observe if controls are being implemented. Inspectors have a 60 minute window to complete a VEE.

If at any time within the 60 minute window, 12 readings averaged together exceed the specified standard, a violation could be issued. Steps to conducting VEE depend on the operation occurring and where the emissions are generated.

Definitions:

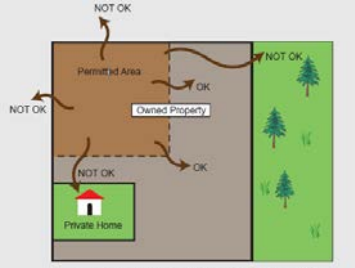
Stack Emissions – The particulate matter emissions that are released to the atmosphere from capture system through a building, vent, stack or other point source discharge.

Fugitive Dust Emissions – Particulate matter not collected by a capture system that is entrained in the ambient air and is caused from human and/or natural activities.

Fugitive Dust Emissions Beyond the Property Line

✓ Fugitive dust emissions originating from a facility must not be visible beyond the property line.

✓ The standard for visible emissions beyond the property line of an area covered by a permit is simple—none are allowed.



Keeping Opacity on Property

In the figure above, the brown area is the property on which the permitted facility is located. Surrounding this area is an area in gray that is owned by the dust control permit holder. Visible emissions from the permit area are allowed onto this adjacent area since the property is owned by the permit holder - the emissions do not cross a property line. Should the emissions extend further and onto the property designated as a private home or onto the forested area, the emissions are crossing a property line and are not allowed.

Emission Type	Examples	Reading Intervals
Fugitive Dust Emissions: Non-Continuous Dust Plumes	Bulk Material Loading & Unloading	• Two readings per activity · First at zero seconds · Second at five seconds
Fugitive Dust Emissions: Continuous Dust Plumes	Grading, Trenching	• Readings taken every 10 seconds
Stack Emissions	Baghouse, Scrubber	• Readings taken every 15 seconds

Helpful Hint

Submitting a clear and accurate map, including property boundaries, in your Dust Control Plan can help differentiate your property from others.

In the photo above, dust emissions are being generated but emissions are not visible beyond the property line (beyond the photo frame). Although the on-site emissions may not exceed the 20% opacity standard, no visible emissions are allowed to cross the property line.

In the photo above, dust emissions are clearly visible crossing the property line.

High Wind Conditions and Visible Emissions (316 § 306.3)

Site Operations During High Winds

High wind conditions have the potential to dramatically degrade air quality and can lead to emissions even when a permittee is taking appropriate precautions.

If the permittee has implemented the following requirements, the property line emission requirement and the 20% fugitive dust opacity standard do not apply when the 60-minute average wind speed is greater than 25 miles per hour:

- ✓ Implement fugitive dust control measures
- ✓ Document occurrence of wind event by closest MCAQD monitor from any other certified meteorological station, or by a wind instrument that is calibrated according to manufacturer's standards and that is located at the site.
- ✓ Keep records of dust control that is implemented
- ✓ For active operations, apply water or dust suppressant before and during operations to keep soil visibly moist or cease operations.
- ✓ For inactive storage piles, maintain soil crust or cover
- ✓ For inactive disturbed surface areas, apply gravel or dust suppressant or maintain soil crust

Helpful Hint

Sign up to receive alerts from the Department's Rapid Response Notification System at: http://www.maricopa.gov/aq/news/RapidResponseNotification.aspx

Weekly dust control forecasts are available on ADEQ's website at: http://azdeq.gov/environ/air/ozone/mcdust.pdf

Wind driven dust crossing a road

Visible Emissions Originating from Adjacent Lands

Conditions may arise where winds will drive dust from one property (e.g., a vacant field) across another. Normally, visible emissions seen crossing the property line will constitute a violation. If visible emissions are created from a location outside of the permitted facility, it is important to document the occurrence and even photograph or record the occurrence. This way, if an opacity violation is issued or discussed by an inspector the facility will have proper documentation to show the inspector and/or the Ombudsman. If visible dust emissions are seen transiting a permitted area and no additional dust emissions were contributed from the permitted area, a violation will not have occurred.

Section 8 - Fugitive Dust Control Measures

Non-metallic mineral processing plants may be made up of multiple process types that are connected and/or surrounded by paved or unpaved roads, storage areas, stock piles, and other disturbed surface areas. This section will cover the stabilization standards and control measures required under Rule 316.

> **Helpful Hint**
>
> Control measures must be applied in quantities that enable the facility to comply with both opacity and stabilization standards.

When stabilization is discussed throughout Rule 316, specific test methods and values are discussed. Test methods found in Appendix C - Fugitive Dust Methods are used by the department to show that disturbed areas are stabilized enough so that when the wind blows or the areas are traversed, emissions greater than 20% should not occur. Test methods can also be used by the facility to determine if disturbed areas are in compliance with the rule. Facility representatives need to evaluate all representative surface areas separately for stability. Test methods are discussed in Section 12 and summarized below.

- Threshold Friction Velocity (TFV): This test is used on disturbed surface areas where there is no evidence of vehicle use. It determines how much dust (particulate matter) may get entrained into the air by wind action alone. If the area is not visibly moist or lacking a soil crust, the inspector may take a soil sample and run it through a series of sieves to determine whether the material is unstable.
- Silt Content Test Method (Silt Loading/Silt Content): This test is used on disturbed surface areas where there is evidence of vehicle use. It determines how much dust (particulate matter) could be entrained into the air because of vehicle use on a disturbed area (e.g. unpaved road, parking lot, or storage area). If the area is not visibly moist or lacking a soil crust, the inspector may take a soil samples and run it through a series of sieves to determine whether the material is unstable.
- Soil Crust Determination (Drop Ball Test): This is test can be used on any disturbed surface area that has a visible soil crust. By dropping a small steel ball onto a visible soil crust, an inspector or facility representative can easily determine if the soil crust meets the stabilization standards. If the steel ball sinks into the surface or is able to pulverize the crust, the area could be deemed unstable.
- Flat and Standing Vegetative Cover: These tests are rarely used at non-metallic mineral processing plants because vegetation is rarely present at these facilities. If vegetation were present it could be used as a factor to determine stability. Vegetation can act as a shield when the wind blows, helping to reduce emissions.
- Rock Test Method: This test is used to determine how many rocks are present on a disturbed area and to examine the wind-resistance effects of the rocks. When rocks, greater than 1 cm in size are present on a disturbed area they may act as a shield when the wind blows. Rocks alone can be used as a stabilization method or they may be combined with other controls in order to meet stabilization standards.

Open Areas and Disturbed Surface Areas (316 §306.5)

For disturbed areas where no activities are occurring apply water to comply with the visible emission standard (20% opacity limit) and comply with one of the following stabilization standards:

- ✓ maintain a soil crust
- ✓ maintain a threshold friction velocity (TFV) of 100 cm/second or higher
- ✓ maintain a flat vegetative cover equal to at least 50%
- ✓ maintain a standing vegetative cover equal to or greater than 30%
- ✓ maintain a standing vegetative cover that is equal to or greater than 10% when the TFV is equal to or greater than 43 cm/second

- ✓ maintain a percent cover that is equal to or greater than 10% of the non-erodible elements
- ✓ comply with an alternative test method approved by the Control Officer and the Administrator

Helpful Hint

An inactive pit is one example where no activity is taking place and the provision of Rule 316 §306.5 would apply.

Helpful Hint

If controls listed in Rule 316 are not feasible for a facility they may request the ability to implement alternative control measures. The request must include what the alternative measure is, what it is replacing, and a statement/report demonstrating that measures would result in equivalent or better emission control that the measure stated in the rule.

Alternative control measures have to be approved by the Control Officer and the Administrator and cannot be implemented until they are approved. Once approved, updates to the Dust Control Plan must occur.

Bulk Material and Open Storage Piles

Bulk materials encompass a wide array of materials including earth, rock, sand, gravel, soil, aggregate less than two inches in length or diameter, and demolition debris among many others. When handled, bulk materials are capable of producing fugitive dust emissions.

A pile of bulk materials with a silt content 5% or greater, with a surface area greater than or equal to 150 ft² and reaching a height of three feet (at any point) is an open storage pile. An open storage pile is presumed to have a silt content of 5% or more, however, a permit holder has the option to conduct a test to show that the silt content is less than 5%. This test protocol is ASTM Method C136-06.

Bulk Material Handling (316 §307.1)

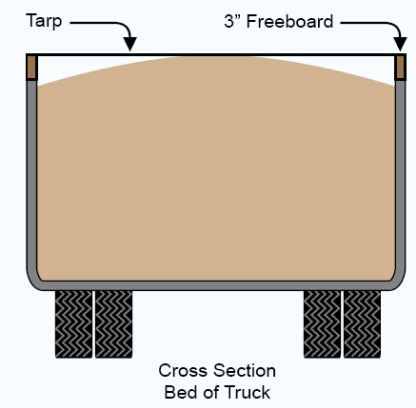
Prior to and while conducting loading and unloading operations, spray material with water or other dust suppressant as necessary to comply with the 20% opacity standard.

Hauling of Bulk Materials (Rule 316 §307.5)

When hauling or transporting bulk materials off-site, the following controls must be implemented:

- ✓ the truck's load must be covered by a tarp
- ✓ the freeboard must be 3 inches or more
- ✓ there can be no spillage through holes or seams in the container area

Haul Truck Load Cross Section Proper Loading



Helpful Hint

Sweep truck fenders, bumpers, aprons, etc., before leaving facility to reduce the potential for offsite spillage.

Managing Open Storage Piles (316 § 307.1)

When an open storage pile has been created and the material is dormant, several management options are available, one option must be used:

- ✓ apply sufficient water at intervals to maintain moisture content at 1.5% and pile crust
- ✓ locate storage pile in pit
- ✓ arrange storage piles so that larger diameter products are on the perimeter and act as barriers
- ✓ construct wind barriers, storage silos, or a three-sided enclosure
- ✓ cover the storage pile with a tarp or similar material and ensure that the tarp or other material is sufficiently affixed to prevent its being dislodged by wind

Helpful Hint

Control measures need to be implemented to meet stabilization and opacity standards. If storage piles are located in a pit and the wind causes the storage pile to create fugitive dust emissions greater than 20%, it would be necessary to implement a secondary control measure.

New Storage Pile Size and Location (316 § 307.1)

When feasible, new storage piles must be at least 25 feet from property line and no more than 45 feet tall.

> **Helpful Hint**
>
> Open storage piles are challenging to manage. Extra care needs to be taken to ensure that they are in compliance.

On-Site Traffic and Internal Paved Roads (Rule 316 §307.4)

Facilities are required to clean paved roads on a frequency determined by the number of aggregate trucks, mixer trucks or batch trucks exiting the facility on any given day.

- Facilities with less than 60 aggregate, mixer, or batch trucks that exit daily must sweep internal paved roads *at the end of every other work day*. On days that the roads are not swept, the facility must apply water on at least 100 feet of paved roads or the entire length of all paved roads, whichever is shorter.

  On days when sweeping does not occur, water must be applied on at least 100 feet of a paved road leading to an exit or the entire paved road leading to an exit if the road is shorter than 100 feet. The intent is to ensure that the paved road closest to the exit remains free of accumulations of soil.

- Facilities with more than 60 aggregate, mixer, or batch trucks that exit daily must sweep internal paved roads *at the end of every production work shift*, whenever there is evidence of dirt or bulk material extending a cumulative distance of 12 linear feet on any paved road. For facilities operating on a 24-hour schedule, sweeping may be required every eight hours assuming that at the end of each shift the 12 foot threshold is met).

On-site traffic must comply with the following requirements:

- ✓ All permanent areas of a facility where vehicles drive must be paved or cohesive hard surface
- ✓ All batch trucks and material delivery trucks must remain on roads with paved or cohesive hard surfaces
- ✓ All aggregate trucks must remain on roads with paved or cohesive hard surfaces, except when driving on roads leading to and from aggregate loading areas, as identified in a Dust Control Plan
- ✓ All batch trucks and material delivery trucks must use a trackout control device

For Areas where Support Equipment and Vehicles Operate (Rule 316 §307.2)

In areas where loaders, support equipment and vehicles operate, facilities must apply and maintain water, a dust suppressant, or gravel pads to ensure silt loading does not equal or greater than 0.33 oz/ft^2 and silt content does not exceed 8%.

Temporary Unpaved Haul and Access Roads (316 §307.3)

Whether marked or unmarked, an unpaved haul or access road is a road within a permitted area that is used to move material, equipment, or people from one point to another. These roads are likely to change location frequently and meeting the stabilization requirements is likely to require close attention.

By definition, an unpaved haul or access road represents a semi-permanent disturbed area that will require stabilization on an ongoing basis. At all times, visible emissions from unpaved haul/access roads must remain below 20% opacity. Additionally, Rule 316 §306.4 sets silt loading and silt content levels that can never be exceeded. These levels are:

- ✓ silt loading cannot equal or exceed 0.33 oz/ft^2
- ✓ silt content may not exceed 6%

To meet the visible emissions standard, silt loading, and silt content standards, active control measures for unpaved haul/access roads are required. One of the following options ***must*** be implemented:

- ✓ Limit vehicle speed (e.g., install speed control devices) and apply water
- ✓ pave
- ✓ apply and maintain gravel pad
- ✓ apply and maintain a suitable dust suppressant other than water ***or***
- ✓ install and maintain a cohesive hard surface

For new facilities, if none of the above measures can be

technically or feasibly implemented, maintain a minimum distance of 25 feet from the property line.

Helpful Hint

Things to watch for on haul and access roads:

- ✓ The silt load or content is within acceptable limits.
- ✓ The road is adequately stabilized.
- ✓ Visible emissions

While signage is not required, it is helpful.

Spillage (Rule 316 §307.8)

Spillage is any material that spills while being processed. This definition includes material from loaders and haul trucks and also material spilled from process equipment (e.g. crushing and screening processes) transfer points.

Once spillage is observed, promptly remove or apply water or other dust suppressant. Spillage from roads must be removed at the end of each day.

Helpful Hint

Use your Dust Control Plan to develop and implement best practices to manage spillage.

Section 9 - Portable Sources

A stationary source that is capable of being transported in more than one county of this state is considered a portable source. Many facilities subject to Rule 316 are portable sources that can move from location to location.

Permitting Authority: ADEQ or the Department?

Portable sources that operate exclusively in Maricopa County must obtain a permit from the Department. Portable sources that operate in Maricopa County and other counties must obtain permit coverage from ADEQ. When your ADEQ portable, remains at one location in Maricopa County for five years, a County permit will be required. Information on ADEQ's permitting process, including its general permits, is available at:

http://www.azdeq.gov/environ/air/permits/index.html

Portable Source Requirements

Before beginning commercial operations at a new location within Maricopa County, the following requirements must be met:

- ✓ Submit move notice and Dust Control Plan
- ✓ Update Dust Control Plan. NOTE: Requests for approvals of alternative moisture content or reduced sampling points must be resubmitted.
- ✓ Post facility information sign
- ✓ Install any required trackout control device(s)
- ✓ Install all required pollution control devices, including water sprays

In addition, scheduling a courtesy visit is recommended to ensure that operations at the new location comply fully with Rule 316.

Helpful Hint

Moisture tests must be conducted within one hour of startup operations at the new location.

Section 10 - Inspections

Inspections

Routine Inspections

The Department conducts five inspections per year at facilities that are regulated under Rule 316 (these are referred to as "annual" and partial inspections). Additional inspections will occur should the department receive a complaint about a facility (a non-routine inspection). Routine inspections are conducted during facility business hours. If the inspector arrives after business hours or when the site is shutting down for the day, the facility site representative may request that the inspection be postponed. Normally, this request will be honored unless the inspector has reason to believe that the inspection must be completed immediately.

"Tell-tales"

All facilities operating under a Rule 316 permit are expected to be fully compliant with Rule 316 at all times. While inspectors are assigned to conduct specific inspections, they may, in the course of their duties, drive by and observe facilities that exhibit "tell-tale" signs of potential non-compliance (e.g., the presence of trackout or dust emissions). These "tell-tales" suggest to the inspector that his or her normal schedule should be modified to more closely investigate what may be immediate non-compliance. Paying attention to these indicators of potential non-compliance is important. Identifying problems early and correcting them is "key" to avoiding violations and the penalties associated with them.

Helpful Hint

Stay and wait until an inspector has completed the inspection to receive a verbal "initial" inspection report. You may be able to clarify the inspector's observations and gain useful information.

Specific "Tell-tale" Warning Signs

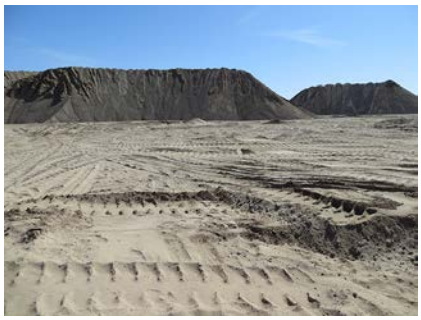
- ✓ Trackout on paved areas or roads accessible to the public.
- ✓ Visible emissions of dust.
- ✓ A messy jobsite.
- ✓ Disorganized traffic patterns.
- ✓ Unstable roads.
- ✓ Ongoing hauling operations.
- ✓ Trucks entering or exiting a site that are either overloaded or without a tarp.
- ✓ Lack of a permit sign or a sign that is missing required information.

Visible Emissions

"While driving by a permit area, an experienced inspector can get a good sense of whether the project site will be in compliance … in about 10 seconds." - Supervising Inspector

Inadequate trackout control

Tarping violation



Unstable Open Area

Helpful Hint

After an Opportunity to Correct or Notice of Violation is issued, a department inspector will conduct a "disposition inspection" to ensure that the violation has been corrected. This will often take place the day after the initial observation of the violation.

Helpful Hint

Conduct self-inspections – this is a great way to ensure your facility will be in compliance when the inspector visits.

Inspection Rights

As a prelude to an inspection, the department representative will present a copy of your inspection rights and ask that the facility representative sign the document acknowledging that they were informed of their rights. The Inspection Rights form includes a statement noting that the department's Ombudsman can be contacted for assistance. If an Opportunity to Correct or a Notice of Violation is issued after an inspection, a request for Ombudsman review must be made within ten days following receipt of the NOV.

The inspection rights are:

1) The Maricopa County Air Quality Department (hereinafter "department") representative(s) identified above was/ were present at the above regulated site at the above listed date and time. Upon entry to the premises, the department representative(s) met with me, presented photo identification indicating that they are a department employee(s) and explained that:

The purpose of this inspection is:

- to determine compliance with Arizona Revised Statutes (A.R.S. Title 49, Chapter 3, Article 3) and/or Maricopa County Air Pollution Control Regulations.
- to determine compliance with an Air Quality Permit issued pursuant to A.R.S. § 49-480, and Maricopa County Regulations Rule 100, Section 105.
- to determine compliance with an administrative or judicial order issued pursuant A.R.S. § 49-491, § 49-511, § 49-512.

This inspection is being conducted pursuant to A.R.S. § 49-473, § 49-474, § 49-488, and/or the inspection and entry provisions in an Air Quality Permit or conditional order. There are no direct fees for this inspection.

2) I understand that I can accompany the department representative(s) on the premises, except during confidential interviews.

3) I understand that I have the right to copies of any original document(s) taken during the inspection, and that the department will provide copies of those documents at the department's expense.

4) I understand that I have a right to a split of any sample(s) taken during the inspection, if the split of the sample(s) would not prohibit an analysis from being conducted or render an analysis inconclusive.

5) I understand that I have the right to copies of any analysis performed on sample(s) taken during the inspection and that the department would provide copies of this analysis at the department's expense.

6) I understand that each person interviewed during the inspection will be informed that their statements may be included in the inspection report.

An Inspection Begins

7) I understand that each person whose conversation will be tape-recorded during the inspection will be informed that the conversation is being tape-recorded.

8) I understand that if an administrative order is issued or a permit decision is made based on the results of the inspection, I have the right to appeal that administrative order or permit decision. I understand that my administrative hearing rights are set forth in A.R.S. § 49-482, § 49-498 et seq. and Maricopa County Air Pollution Control Regulation IV, Rule 400. If I have any questions

concerning my rights to appeal an administrative order or permit decision, I may contact the department's Ombudsman at 602-506-1813.

9) I understand that the issuance of an Opportunity to Correct or a Notice of Violation is not appealable. I understand that if I have any questions or concerns about this inspection, or I wish to dispute the inspection findings, I may contact the department's Ombudsman at 602-506-1813.

10) If a Notice of Violation is issued, I understand that I may check its status.

11) While I have the right to decline to sign this form, the department representative(s) may still proceed with the inspection/investigation.

To check on the status of a Notice of Violation use this weblink http://www.maricopa.gov/ag/divisions/enforcement/nov/nov_status.aspx

Helpful Hint

While inspectors may offer constructive operational suggestions, you should confer with your technical staff or consultant to determine your actions.

An inspector cannot order you to take action or direct your operations in any way.

Once an Inspection Begins, What Do Inspectors Look For?

An inspection can be a nerve-wracking experience or a validation of the good on-site control practices being employed. When an inspector arrives, you can be reasonably sure several areas will be asked about. The brief list below highlights key points that an inspector will be reviewing.

The Permit

Is the permit onsite and accessible? Has it expired? Does it cover all equipment in use at the facility?

Completed Records

Records should be clear and meet the basic requirements.

Are copies of moisture test records onsite?

The Approved Dust Control Plan

Is the Dust Control Plan onsite? Are the control measure commitments being used?

The Operations and Maintenance Plan

Is the O&M Plan onsite? Is it being followed?

Impacts on Sensitive Groups

Is a hospital, school, or senior residential area nearby? Is there the potential for sensitive groups to be exposed to dust from disturbed areas?

Water Sprays

For all applicable process equipment that are in operation, are water sprays installed and in use?

Helpful Hint

Make someone in your organization accountable for the environmental program. One person being responsible ensures accountability, provides focus, creates consistency, helps compliance, and reduces costs. This person should be able to give direction, arrange and track required training.

Site Conditions

A quick visual survey of your facility each day can tell you a lot about whether you are in compliance.

- Is there any visible trackout?
- Does trackout extend beyond 25 feet in cumulative distance? Is someone engaged in cleaning up trackout? Have disturbed areas been adequately stabilized?
- Does signage contain the required elements?

The Dust Control Plan is an enforceable document. If commitments and/or procedures contained within the Dust Control Plan are not being met, a Notice of Violation can be issued.

- Are contingency control measures listed in the Dust Control Plan being used?

Inactive Operations

Many operations have been idled during the recent economic downturn. Before conducting any routine inspection, the Department inspector will conduct a file review (examples of relevant records

include: written notice from the Permittee, prior inspection records, and annual emission inventories) to determine whether the site might be inactive. For these sites, the inspector will call the site representative to determine whether operations have restarted. If operations have not restarted, the inspector and the site representative will schedule a mutually-acceptable time for an on-site visit. If operations have restarted, the date and time of the inspection will be unannounced.

Courtesy Visits

The department's Ombudsman is available to provide onsite guidance to help facilities better understand their regulatory obligations. Courtesy site visits may be scheduled through the department's small business assistance office. A courtesy visit's focus is educational and is encouraged to be scheduled early in the term of a permit.

- ✓ By taking advantage of a courtesy visit, it is easier to plan ahead to ensure that follow-on activities will be in compliance.
- ✓ A request for a courtesy visit should be scheduled well in advance.

Helpful Hint

To arrange a courtesy visit, call the small business assistance office at 602-506-5102

Section 11 - Enforcement

Enforcement

When an inspector finds a condition that is non-compliant, the inspector has a duty to issue either an Opportunity to Correct (OTC) or a Notice of Violation (NOV). Both the OTC and NOV represent documentation of a violation – the difference is that an OTC will not result in the department seeking a monetary penalty. Additionally, with one exception, an Opportunity to Correct is not considered in subsequent enforcement matters as a factor in determining a penalty. However, when the specific violation for which an OTC was issued is repeated, the earlier OTC will be considered.

The Opportunity to Correct is issued for only certain types of non-compliance and under certain conditions. The Opportunity to Correct policy document describes this in detail and can be reviewed at http://www.maricopa.gov/aq/divisions/enforcement/docs/pdf/PP-2011-003.pdf

An inspector has only a limited amount of discretion to issue an Opportunity to Correct. To be eligible for an OTC, the violation observed must meet the criteria established in the policy to classify the violation as being "minor."

If the violation for which an OTC was issued is not corrected within a short window of time (identified by the inspector) an Opportunity to Correct will be converted into a Notice of Violation. For example, if documentation is not provided to the department within a short time validating that the non-compliant condition has been corrected, an OTC may be converted to an NOV.

Each recipient of an NOV has the opportunity to request Ombudsman review. If the recipient of an NOV does not seek Ombudsman review within 10 days of the inspection, or if the Ombudsman has affirmed the NOV, an NOV will be referred to the department's enforcement unit where the case will be reviewed and a penalty amount calculated by the enforcement officer assigned to the case. The inspector is not involved in determining a penalty offer. Penalties are calculated using the department's penalty policy which can be reviewed on the department's website at http://www.maricopa.gov/aq/divisions/enforcement/docs/pdf/Violation%20Penalty%20Policy.pdf

Once a penalty amount is determined, the NOV recipient is presented with a settlement offer to resolve the NOV. The NOV recipient has the option of engaging in a discussion with the department's enforcement unit to reach an agreed-upon penalty. If no agreement can be reached, the case is referred to the Maricopa County Attorney's Office where a penalty will be pursued through court action. A permit holder has the right to legal representation at any point during the enforcement process.

Unstable Haul Access Road

Most of the enforcement actions taken by the department result in an Order of Abatement by Consent, a document that outlines the violations and the penalty that is agreed upon between the department and the respondent. The Order of Abatement by Consent may also contain additional provisions necessary to achieving compliance, such as obtaining a permit or paying outstanding fees.

In the event the recipient of the enforcement action declines to accept a penalty offer, the department will refer the matter to the County Attorney's office with a request to file a civil action in Maricopa County Superior Court. The department may also consider filing a case in Maricopa County Justice Court.

In some cases, the department may issue an Order of Abatement. This is a unilateral order requiring compliance with the terms contained in the order. When an Order of Abatement is issued, the respondent has the opportunity to seek a hearing before the Air Pollution Control Hearing Board. This appeal must be filed in writing and within 30 days of receipt of the Order. An appeal to the Air

Pollution Control Hearing Board is also available following the issuance of a permit, a permit revision, or a conditional order.

Ombudsman Review

The Office of the Ombudsman was created to provide an opportunity for individuals seeking relief from some conflict with the department. An Ombudsman provides assistance to individuals and organizations with unresolved concerns and seeks to achieve a fair resolution. Importantly, the Air Quality Ombudsman reports to the director of the department and is empowered to work with department staff to resolve a concern. The Ombudsman acts as an impartial, unbiased party during disputes. The Ombudsman can investigate a complaint and make a recommendation, but has no direct, legal authority to make or reverse a decision. The services provided by the Ombudsman are open to anyone, including businesses, members of public-interest groups, and private citizens.

With regard to enforcement actions, the Ombudsman may offer an independent review of an Opportunity to Correct, a Notice of Violation, or a review of the penalty assessment offered by the Enforcement Division. Generally, a request for Ombudsman support must be initiated within 10 days of receipt of an Opportunity to Correct or an NOV or 10 days after receipt of the department's final penalty offer letter.

Office of the Ombudsman
Contact Information

Ken Hooker
(602) 506-1813
khooker@mail.maricopa.gov

Eight cases involving facilities regulated under Rule 316 were considered by the department's Ombudsman in 2012. Of these, in two cases the violations were affirmed. Five of the cases resulted in some change and at the time this handbook was posted, one case was still in review. Of all the cases reviewed by the Ombudsman in 2012, cases involving violations of Rule 316 represented 19% of the total.

Administrative Hearings

In addition to Ombudsman review, any person receiving a final offer to settle an enforcement action for a penalty determined by the department has the opportunity to request a hearing before an Air Pollution Hearing Officer. The hearing officer will take evidence and make findings of fact and conclusions of law that are then presented to the department's director as a recommendation for a final decision on a penalty offer.

A request for Ombudsman review of a final offer letter will not be considered a request for an administrative hearing. A separate request for an administrative hearing must be made to the attention of the Hearing Officer.

Public Record Requests

Requests for public records are available through the department's records management staff. All requests must be in writing and clearly state the records sought. If the records request is vague or broad in nature, records management may ask for further clarification or for the requester to be more specific about the records that are being requested.

The form to initiate a Public Records Act Request is available online at http://www.maricopa.gov/aq/contact_us/docs/pdf/Records%20Request-Non-Commercial.pdf

Records may be requested using the Air Quality Public Records Request Form or by providing a written request with the following information:

- *requester's first and last name*
- *requester's business/company name if applicable*
- *requester's address or business address*
- *requester's phone number and fax number*
- *record being requested (list business name, business address, and permit number if known)*
- *document what the records are requested for*
- *document if the records are Commercial or Non-Commercial (see Commercial Record Request Definition)*
- *indicate whether copies are being requested or if you wish to inspect the record in person.*

More detailed information regarding requesting public records is available on the department's website at http://www.maricopa.gov/aq/contact_us/public_records/Default.aspx

Submitting a Public Records Request?

By FAX
(602) 372-0997

By EMAIL
requestrecords@mail.maricopa.gov

By MAIL
Maricopa Air Quality Department
Attention: Records Management
1001 N. Central Avenue, Suite 125
Phoenix, AZ 85004

IN PERSON*
1001 N. Central Avenue, Suite 125
Phoenix, AZ 85004

***Submitting a request in person does not guarantee that the department will have the resources immediately available to fulfill the request.**

Section 12 - Test Methods

Several test methods must be used at facilities subject to Rule 316.

Test Methods for Emissions

Grain Loading

EPA Reference Methods 40 CFR part 60,appendix A,1 through 5, are used to determine compliance with the process emission limitations applicable to stack emissions from crushing and screening operations, asphalt plants, and new cement, lime, and fly-ash storage silos.

Gaseous Emissions from Hot Mix Asphalt Plants

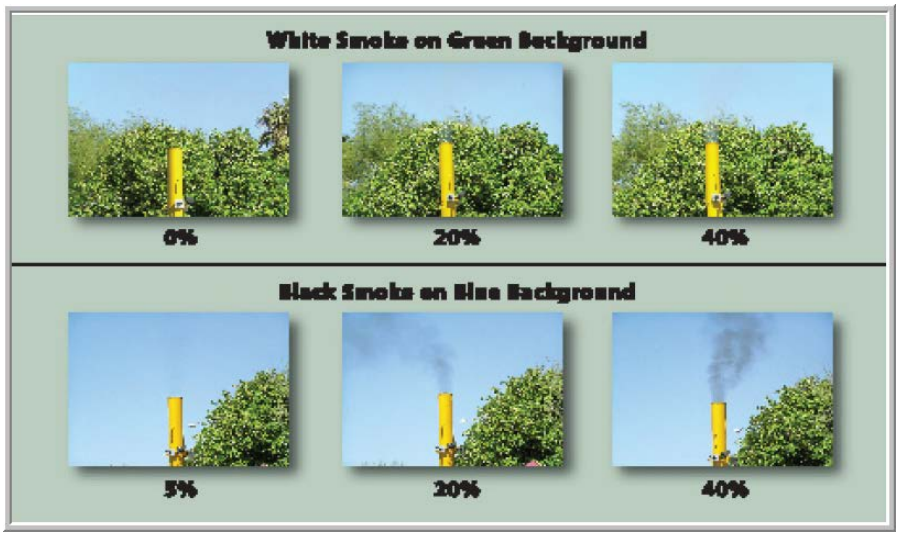
Once every five years unless otherwise specified in the permit, hot mix asphalt plants must conduct tests to measure emissions of NOx, SOx, CO and VOCs using approved EPA Reference Methods. These tests must be conducted under representative operating conditions. The Department has reviewed numerous tests conducted for rubberized asphalt and recycled asphalt and has determined that use of these materials does not have a material effect on emissions. Therefore, separate tests for each operating scenario are not required.

Helpful Hint

In practice, the best way to keep emissions to a minimum is to maintain fuel-burning equipment in good operating condition and optimize burner combustion. In addition, follow your O&M Plan for any emission control systems.

Process Emissions

EPA Reference Method 203B must be used to determine compliance with the opacity standards for hot mix asphalt plants, crushing and screening operations, and concrete batch plants. Appendix C of Maricopa County's rules should be used to determine compliance for truck dumping and all non-process related fugitive dust emissions.



The above photos were taken during an ADEQ/ASU Smoke School held at Mesa, Arizona on March 26, 2008. The plumes of smoke were generated by a smoke machine that was calibrated on March 26, 2008 to meet EPA Method 9 standards for smoke generator machines used to certify candidates for EPA Method 9 Visible Emissions Evaluator.

Please note that the EPA Method 9 does not recognize photography as a substitute for determination of opacity by human vision. Photographs may vary from picture to picture and camera to camera due to a variety of physical conditions and camera operator variability. The photos should be used as guidance to assist student learning.

Information concerning "smoke school" is provided in the Resources section.

Determining Opacity of Fugitive Dust Emissions

Appendix C, Part 3

Opacity emissions of dust are determined using Appendix C, Part 3 of the Maricopa County Air Pollution Control Rules and Regulations. Observations made using Appendix C require the observer to be certified and to use very specific protocols to determine opacity values.

There are several distinct protocols for determining opacity based on the type of operation underway.

1. Non-continuous dust plumes including, but not limited to, those plumes generated by bulk material loading/unloading, non-conveyorized screening, or trenching with backhoes. This method averages 12 observations taken at 0 and 5 seconds for each event over a period not longer than one hour. As a practical matter, the 12 observations will most likely be completed over the period of a few minutes.
2. Continuous dust plumes, including but not limited to, plumes resulting from grading, trenching, blading, clearing, leveling and raking. This method consists of the average of 12 observations with each observation taken at intervals of ten seconds.
3. For unpaved roads and unpaved parking lots, two observations per vehicle at one meter plume height. This method averages 12 observations taken at 0 and 5 seconds over a period not longer than one hour.

Test Methods for Watering Systems

In general, moisture testing must be conducted in accordance with ASTM C566-97, except that smaller samples may be used. In addition to ASTM C566-97, EPA and the department have approved the use of the Speedy Moisture Meter. Further information concerning this alternative, and the prerequisites to using it, can be found on the Department's website at: http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/Concurrence%20on%20Alternative%20Moisture%20Testing%20Method%20with%20Speedy%20Moisture%20Meter.pdf

Permittees can submit requests for other alternative testing methods. Prior approval by the department and EPA is required before alternatives can be used.

Test Methods for Soil Compaction and Moisture

Determining soil moisture requires the use of a specific test procedure (ASTM D2216-05) that is done using an oven under laboratory conditions. This method requires several hours for proper drying of the sample. Compaction is determined using ASTMD1557-02e2. Synopses of the test methods are provided on the ASTM website and the full test methods are available through ASTM at www.astm.org/Standards/D2216.htm

Test Methods for Soil Stabilization

Silt Content Test Method

Appendix C, Section 2.1.2 of Maricopa County's rules is used to determine the silt content of unpaved roads and parking areas.

The details of this procedure are available for review at http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/AppendixC-0404.pdf

Soil Crust Determination (The Drop Ball Test)

A simple test to determine if a soil crust is present is known as the drop ball test. A relatively small (15.9 mm) steel ball weighing between 0.56 and 0.6 ounces is dropped onto a 1-foot square area from a distance of 1 foot above the surface. The ball is dropped three times within this 1-foot square area.

If the observation of the dropped ball passes the test criteria two out of each three times the ball is dropped, the area is considered to have passed the test. The criteria for passing is for 1) the dropped ball not to have sunk into the surface such that it is partially or fully surrounded by loose grains of soil and, 2) when the ball is removed, the surface upon which it fell has not been pulverized so that loose grains of soil are visible.

Drop Ball Test

A Passing Grade

Does a failed drop ball test apply to the whole project?

Yes. Each sample area selected at random by an inspector is considered to be representative of the soil type in the disturbed area in its entirety.

Helpful Hint

The best test method is no test method! If a project site is visibly moist throughout, then an inspector knows immediately that any test method will pass, and therefore a test method is not needed.

As a practical matter, the first test is a common-sense visual (eyeball) test.

Threshold Friction Velocity

Threshold Friction Velocity (TFV) is defined as the wind velocity necessary to initiate soil erosion. A test can be readily performed in the field by an inspector to determine whether soil conditions are susceptible to dust entrainment. The TFV value is specified in Rule 316 and soils that do not meet this value are not stable and a condition of non-compliance exists.

By sorting a soil sample through a series of sieves, which allow soil particles of different sizes to pass through, a distribution of particle sizes in a soil sample can be determined. This distribution is then compared to a table contained in the test methodology that allows the determination of a TFV value. The standard contained in Rule 316 is to maintain soil conditions such that the TFV value is 100 cm/sec or greater.

The details of this procedure are available for review at http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/AppendixC-0404.pdf

Determination of Vegetative Cover

Appendix C, Sections 2.5 and 2.6 of Maricopa County's rules are used to determine flat and standing vegetative cover.

The details of these procedures are available for review at http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/AppendixC-0404.pdf

Threshold Friction Velocity

Threshold Friction Velocity with Rock Test Method

Rock Test Method (Excerpted from the U.S. EPA Website)

This test method examines the wind-resistance effects of rocks and other non-erodible elements on disturbed surfaces. Non-erodible elements are objects larger than one cm in diameter that remain firmly in place, even on windy days. Typically, this includes rocks, stones, glass fragments, and hard-packed clumps of soil lying on or embedded in the surface. Vegetation does not count as a non-erodible element in this method. The purpose of this test is to estimate the percent cover of non-erodible elements on a given surface to see whether they take up enough space to offer protection to diminish the wind's ability to entrain dust. For details on this test visit

http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/AppendixC-0404.pdf

Section 13 - Other Applicable Requirements

New Source Performance Standards (NSPS)

EPA develops performance standards for new, modified, and reconstructed sources under its New Source Performance Standards (NSPS) program. Affected facilities at nonmetallic mineral processing facilities and hot mix asphalt plants are subject to NSPS in addition to Rule 316. In addition, many generators are subject to NSPS too.

NSPS for Nonmetallic Mineral Processing Facilities

EPA's definition of nonmetallic mineral processing is the same as the Department's under Rule 316. Affected facilities that commenced construction, modification, or reconstruction between September 1, 1983, and April 21, 2008, must comply with the following limits:

Equipment	PM Limit	Opacity Limit
Stack Emissions	0.022 g/dscf	7% for dry control devices
Transfer Points	N/A	10%
Crushers	N/A	15%

Affected facilities that commenced construction, modification, or reconstruction after April 21, 2008, must comply with the following limits:

Equipment	PM Limit	Opacity Limit
Stack Emissions	0.014 g/dscf	7% for dry control devices on individual enclosed storage bins
Transfer Points	N/A	7%
Crushers	N/A	12%

In addition to the emission limits, affected facilities must comply with numerous testing, monitoring, record-keeping, and reporting requirements. EPA's Fact Sheet for the rule is available at:

http://www.epa.gov/ttn/caaa/t1/fact_sheets/nmpp_nsps_fr_fs_041609.pdf

NSPS for Hot Mix Asphalt Plants

The NSPS for hot mix asphalt plants imposes three emission standards:

1. PM limit of 0.04 gr/dscf
2. 20% opacity limit
3. 5% opacity

The rule is available online at http://www.ecfr.gov/cgi-bin/text-idx?SID=a7c231b21e0ca8f59fb770e15b4990d5&mc=true&node=sp40.7.60.i&rgn=div6

NSPS for Generators

Most generators in use at facilities subject to Rule 316 are now subject to NSPS. Diesel generators must comply with NSPS Subpart IIII. Spark Ignition engines are subject to NSPS Subpart JJJJ. The requirements for these engines are numerous and complex. For additional information, consult EPA's webpages at:

http://www.epa.gov/ttn/atw/nsps/cinsps/cinspspg.html#RULE and
http://www.epa.gov/ttn/atw/nsps/sinsps/sinspspg.html

Note: In addition to generators other internal combustion engines may be subject to NSPS and NESHAP. Each facility should make an independent determination regarding applicability.

Maximum Achievable Control Technology for Generators

In addition to the NSPS, many generators are now subject to federal requirements under EPA's program to reduce hazardous air pollutants. Generators must comply with National Emission Standards for Hazardous Air Pollutants for Reciprocating Internal Combustion Engines (the RICE NESHAP).

Like the NSPS, the rule is complex, and determining applicability and requirements is no small task. For additional information, consult EPA's webpage for the rule at: http://www3.epa.gov/ttn/atw/icengines/

New Source Review

One of the Clean Air Act's significant tools to reduce emissions is the New Source Review (NSR) program. Under NSR, EPA prescribes stringent requirements for new or modified major sources of pollution.

Most sources subject to Rule 316 will not be considered major sources under the NSR rules. However, it is important to remember that minor sources are also subject to certain NSR requirements. Specifically, each state must ensure that its state implementation plan has procedures to determine whether a minor source or modification will interfere with attainment of National Ambient Air Quality Standards.

ADEQ recently revised its minor source NSR rules to comply with this requirement. The final rule is available at:

http://apps.azsos.gov/public_services/Title_18/18-02.pdf

Maricopa County is beginning to work on minor NSR.

Section 14 - More Helpful Hints

More Helpful Hints

- ✓ Have any and all onsite personnel and subcontractors read and initial the approved Dust Control Plan and O&M Plan.
- ✓ Establish subcontractor expectations.
- ✓ Keep the job site organized and presentable.
- ✓ Prominently post site rules for dust control.
- ✓ Restrict access.

Conduct frequent dust control tailgate meetings.

- ✓ To better control trackout, one successful practice is to monitor exits at least every 30 minutes.
- ✓ Maintain records that provide a clear understanding of site operations—recordkeeping should be conducted in tandem with site operations and be used to help trigger corrective action. For example, an observation of trackout greater than 25 feet should be accompanied by notations of immediate action taken to control trackout.

Be aware of sensitive areas that surround your site—anticipate complaints and inspections to investigate complaints.

- ✓ Restrict exits with fencing.
- ✓ Use the courtesy visit option to aid your compliance program.

Become familiar with Rule 316 and its requirements. Rule 316 is available through the department's website at *http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/316-0803.pdf*

Maintaining moist soil

Fenced Exits

Watered Haul Road

Section 15 - Resources

Resources

AP-42, Compilation of Air Pollutant Emission Factors

http://www.epa.gov/ttnchie1/ap42/

Arizona Air Quality State Implementation Plan

http://www.maricopa.gov/aq/divisions/planning_analysis/state_implementation_plan.aspx

Courtesy Inspections

Call (602) 506-6734 to schedule courtesy inspections.

Dust Duty Desk Supervisor

(602) 506-6734

Enforcement

Maricopa County Air Quality Enforcement Policy
http://www.maricopa.gov/aq/divisions/enforcement/docs/pdf/PP-2013-002.pdf

Maricopa County Air Quality Department Website

- ✓ ***Dust Abatement Field Guide for the Construction Industry***
- ✓ ***Location, Hours, and Other Contact Information***
- ✓ ***One Stop Shop***
- ✓ ***Public Records Request***
- ✓ ***Web Contact Form***
  http://www.maricopa.gov/aq/contact_us/Default.aspx

Ombudsman

http://www.maricopa.gov/aq/divisions/BusinessAssistance/Default.aspx

PM-10 Non-attainment Area, Area A, and Other Planning Maps

http://www.maricopa.gov/aq/divisions/planning_analysis/PlanningAreaMaps.aspx

Report a Violation

Call (602) 372-2703 or visit:
www.maricopa.gov/aq/contact_us/report_violation.aspx

Rule 316 and Other Applicable Rules

- ✓ ***Rule 310—Fugitive Dust from Dust-Generating Operations***
- ✓ ***Rule 200—Permit Requirements***
- ✓ ***Appendix F—Soil Designations***
- ✓ ***Appendix C—Test Methods***
  www.maricopa.gov/aq/divisions/planning_analysis/AdoptedRules.aspx

Training

www.maricopa.gov/aq/divisions/compliance/dust/dust_control_training/default.aspx

Other Manuals on Dust Control

Maricopa County Dust Abatement Handbook

http://www.maricopa.gov/aq/divisions/compliance/dust/docs/pdf/Rule%20310-Dust%20Handbook.pdf

Clark County, Nevada – Construction Activities Dust Control Handbook.

http://www.clarkcountynv.gov/Depts/AirQuality/Documents/DustControl/DustForms/DUST_CONTROL_HANDBOOK.pdf

Field Manual on PM-10 and Fugitive Dust Control, Best Management Practices for Maricopa County, Arizona.

http://www.maricopa.gov/aq/divisions/compliance/dust/docs/pdf/DustAbatementFieldGuideEnglish.pdf

Section 16 – Appendices

APPENDICES

Appendix A – List of document edits

Page 2-1 – modified addresses of permit application submittal

Appendix B – Web links

Rules and Regulations

Rule 316 Nonmetallic Mineral Processing (last revised 3-12-2008)

http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/316-0803.pdf

Rule 310 Fugitive Dust from Dust-Generating Operations (revised 1-27-2010)

http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/310-1001.pdf

Policies and Guidance

Rule 316 Implementation Policy Memo

http://www.maricopa.gov/aq/divisions/compliance/dust/docs/pdf/316%20Policy%20Memo.pdf

Hot Mix Asphalt Compliance Assurance Policy

http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/Hot%20Mix%20Asphalt%20(HMA)%20Plant%20Compliance%20Assurance%20Policy.pdf

Asphalt Plant VOC Emissions

http://www.maricopa.gov/aq/divisions/permit_engineering/docs/pdf/tg98-003.pdf

Concurrence on Alternative Moisture Content requirements for Hot Mix Asphalt Plants (EPA letter)

http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/Concurrence%20on%20Alternative%20moisture%20Content%20Requirements%20for%20Hot%20Mix%20Asphalt%20Plants.pdf

Concurrence on Alternative Moisture Testing Method using a Speedy Moisture Meter

http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/Concurrence%20on%20Alternative%20Moisture%20Testing%20Method%20with%20Speedy%20Moisture%20Meter.pdf

Section 505 Compliance Determination for Stabilization Standards

http://www.maricopa.gov/aq/divisions/planning_analysis/rules/docs/AppendixC-0803.pdf

Opportunity to Correct Policy (November 7, 2011)

http://www.maricopa.gov/aq/divisions/enforcement/docs/pdf/PP-2011-003.pdf

Forms

Permit Application Package

http://www.maricopa.gov/aq/divisions/permit_engineering/applications/Default.aspx

Rule 316 Dust Control Plan Form

http://www.maricopa.gov/aq/divisions/permit_engineering/docs/pdf/DustControlPlan.pdf

Rule 316 Operations and Maintenance Plan Form

http://www.maricopa.gov/aq/divisions/permit_engineering/applications/Default.aspx

Permit Cancellation Request Form

http://www.maricopa.gov/aq/divisions/permit_engineering/applications/Default.aspx

Dust Control Plan Change Form

http://www.maricopa.gov/aq/divisions/compliance/dust/docs/pdf/dust-control-plan-change.pdf

Dust Control Recordkeeping Forms

http://www.maricopa.gov/aq/divisions/compliance/dust/docs/pdf/BlankSampleDailyLogV1.0-25Jun08.pdf

Factsheets

Permit Signage Fact Sheet

http://www.maricopa.gov/aq/divisions/compliance/dust/docs/pdf/Project_Sign_Requirements.pdf

Gravel Pads Fact Sheet

http://www.maricopa.gov/aq/divisions/compliance/dust/docs/pdf/Gravel_Pads_Instructions.pdf

Miscellaneous Documents

Rule 316 Frequently Asked Questions

http://www.maricopa.gov/aq/divisions/compliance/dust/docs/pdf/MCAQD_Rule_316FAQ-7_10_08.pdf

Employee List of Training Certifications

http://www.maricopa.gov/aq/divisions/compliance/dust/docs/pdf/BlankSampleCertLogV1.0-25Jun08.pdf

The above documents are directly linked in this pdf version so you can readily access the document online.